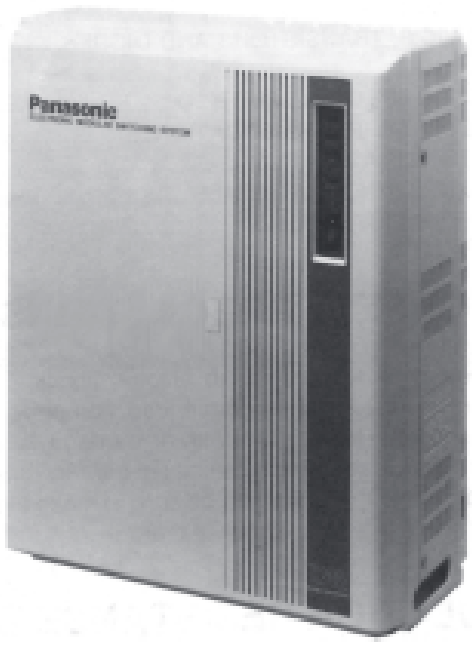
ORDER NO. KM48712591C1
F5

Service Manual

EASA-PHONE

ELECTRONIC MODULAR SWITCHING SYSTEM KX-T123210



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SPECIFICATIONS

General Description

1.	Capacity	Outsides(CO)	Max 12
		Stations	Max 32
2.	Control Method	Stored Program CPU: 8 bits CPU	
		Control ROM: 192 KB, Control RAM : 64KB	
3.	Switching	Space Division CMOS Crosspoint Switch	
4.	Power Supplies	Primary	AC 120V 60Hz
		Secondary	Station Supply Volt : 26V
			Circuit Volt : +5V, +12V, -14V, -16V, ±7V
		Power Failure	●Max 6 outsides assigned to stations ……power failure transfer
			●System operation for several hours by recommended battery (car type batteries - consisting of two 12 VDC, 16 amp / hour maximum rating).
5.	Dialing	Outward	Dial Pulse 10PPS, 20PPS
			Tone Dial
		Internal	Dial Pulse 10PPS, 20PPS
			Tone Dial
		Mode Conversion	DP-DTMF, DTMF-DP
6.	Intercom paths	5	
7.	Outside (CO)-Outside (CO) paths	2	
8.	Connector	Outsides (CO)	Modular Jack (RJ-11)
		Station	Amphenol Connector
		Paging Output	Pin Jack (RCA JACK)
		External Music Input	two-conductors Jack (MINIJACK 9/64 inch diameter)
9.	EXT Connection	Cable	1 pair wire (Standard Telephone)
			2 pair wire (KX-T123230/ KX-T123220/ KX-T123250/ KX-T61630/ KX-T61620/ KX-T61631/ KX-T61650/ KX-T30830/ KX-T30820/ KX-T30850)
10.	SMDR	Interface	RS-232C
	[Station Message Detail Recording]	Output Equipment	Printer, Data Terminal
		Detail Recording	Data, Time, Ext. Number, CO Number, Calling Number, Calling Time, Account Code

Characteristics

1.	Station Loop Limit	KX-T123230/ KX-T123220/ KX-T123250/ KX-T61630/ KX-T61620/ KX-T61650/ KX-T61631/ KX-T30830/ KX-T30820/ KX-T30850	40 ohms
		Standard Telephone	600 ohms including set
		Doorphone	20 ohms
2.	Minimum Leak Resistance	15,000 ohms	
3.	Maximum Number of Station Instruments per Line	1 (KX-T123230, KX-T123220, KX-T123250, KX-T61630, KX-T61631, KX-T61620, KX-T61650, KX-T30830, KX-T30820, KX-T30850 or Standard telephone)	
4.	Ring Voltage	70 Vrms at 20 Hz depends on Ringing Load	
5.	Primary Power	120 Vac, 60 Hz, 1.4 A maximum	
6.	Central Office Loop Limit	1600 ohms maximum	
7.	Environmental Requirements	0-40 C, 10%-90%	
8.	Hookswitch Flash Timing Range	204-1000 msec	

Dimensions and Weight

1. Dimensions.....382 (W) x 477 (H) x 198 (D) mm
   (15 1/32" x 18 25/32" x 7 13/16")
2. Weight.....9.45 kg (20 lb 13 oz)

Design and specifications are subject to change without notice.

KX-T123210

NAME AND LOCATION

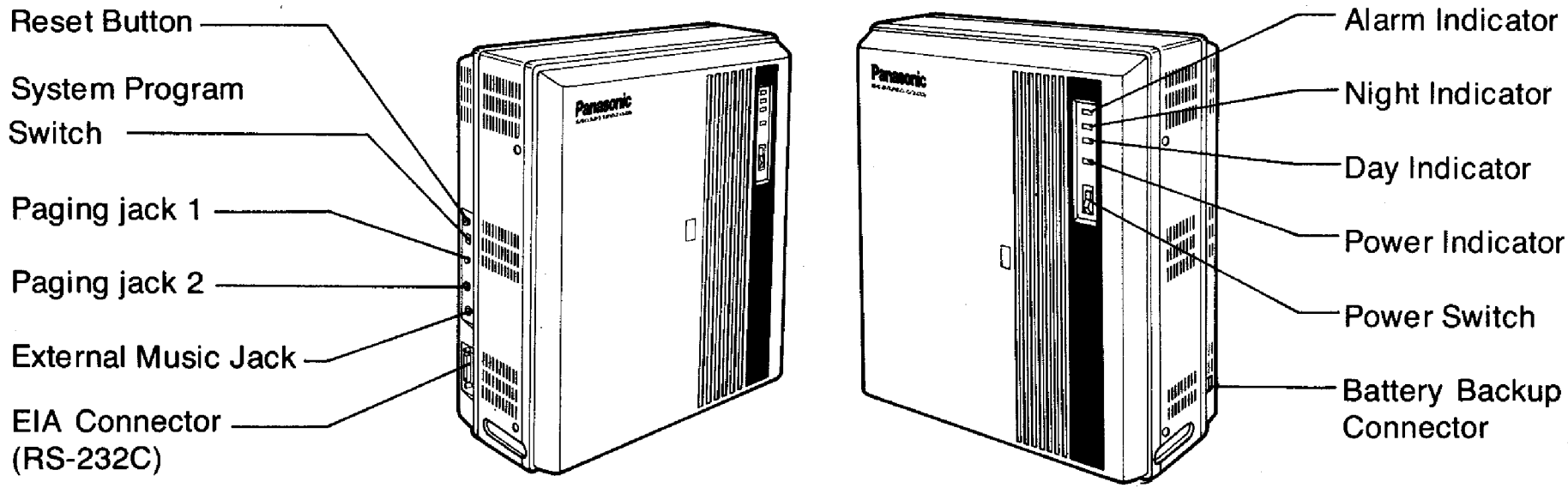
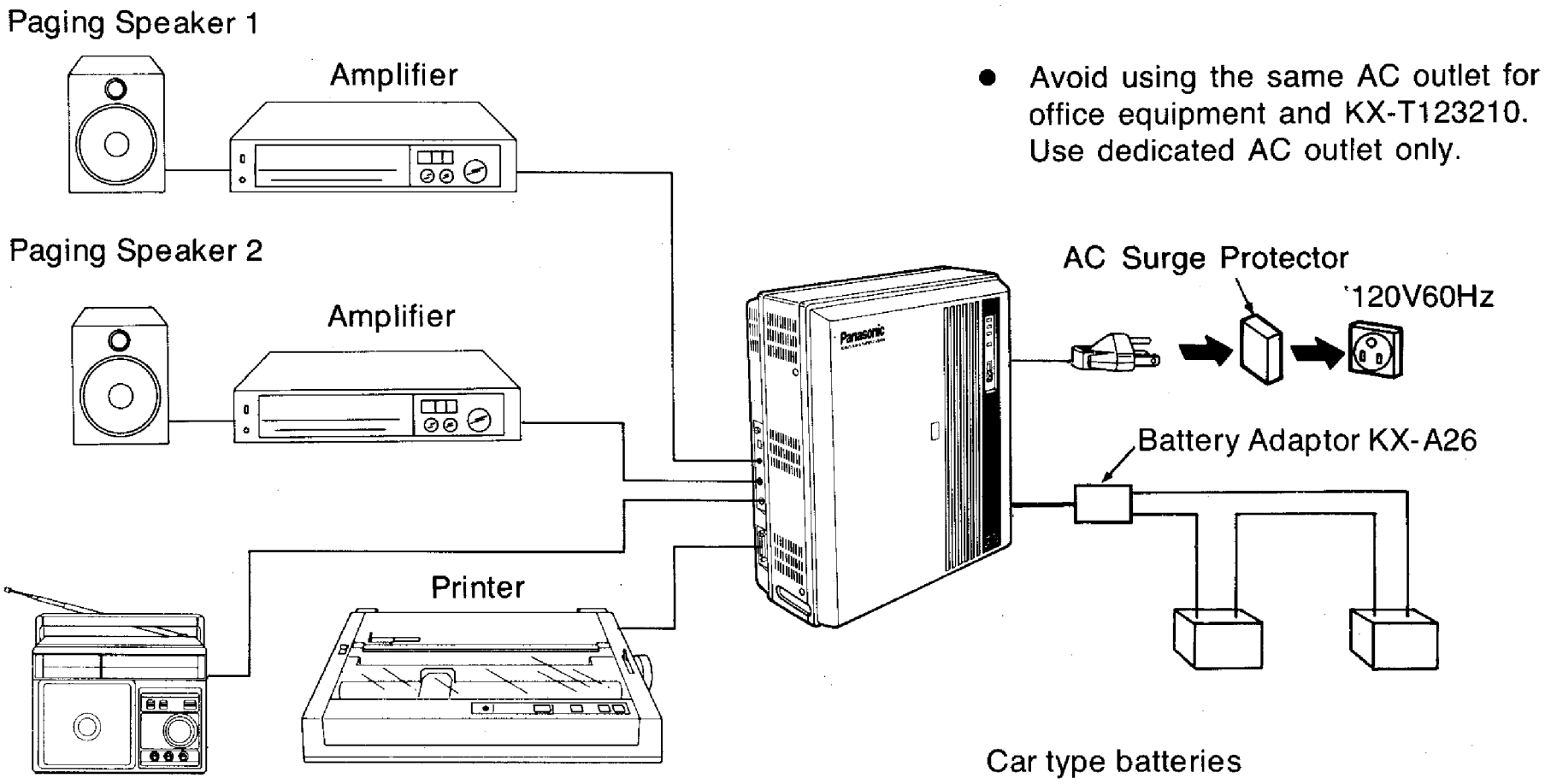


Fig. 3

CONNECTION

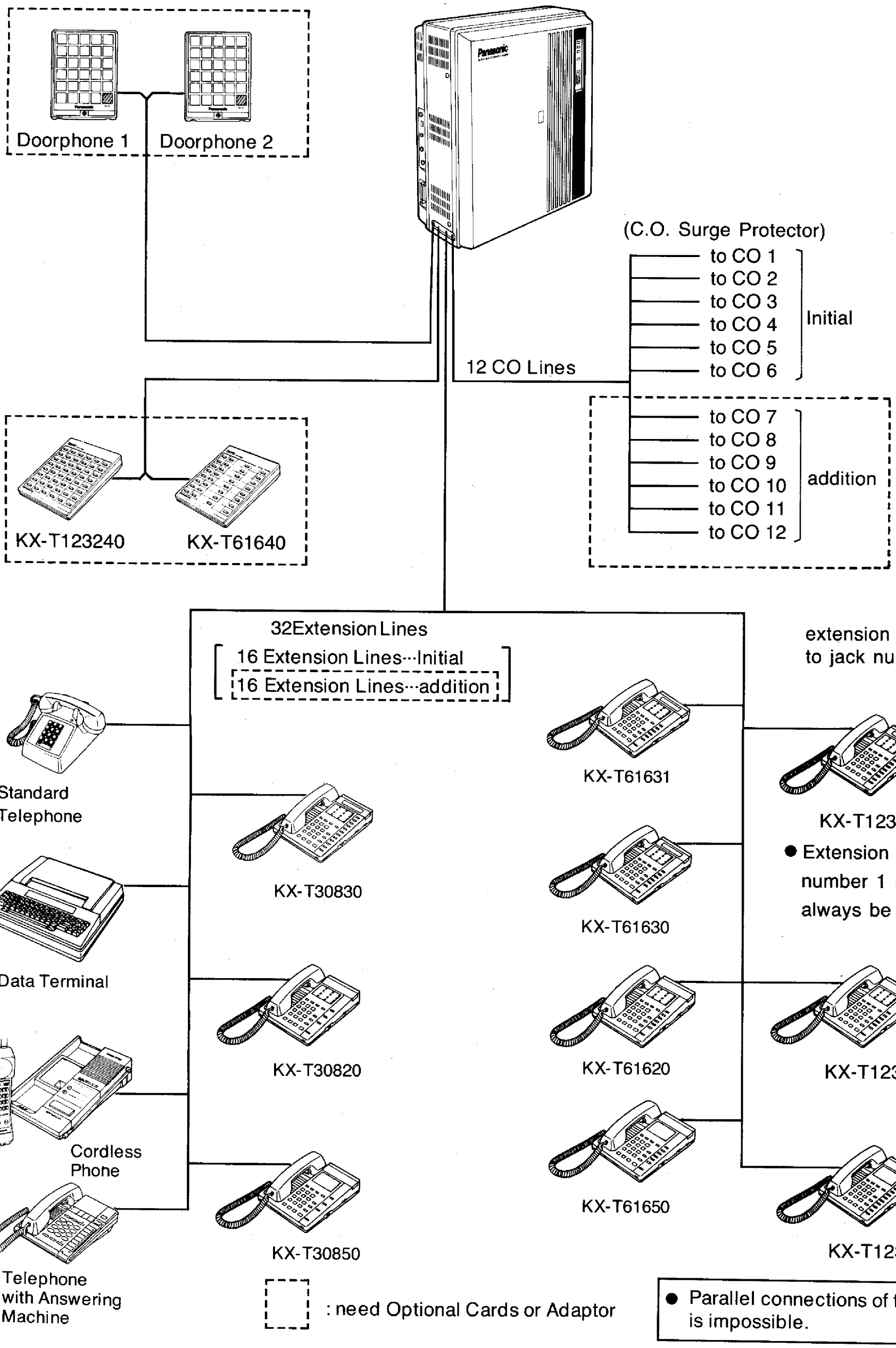


- Avoid using the same AC outlet for office equipment and KX-T123210. Use dedicated AC outlet only.

Car type batteries

- Consisting of two 12VDC (24VDC)

Fig. 4



- Extension connected jack number 1 must always be a KX-T123230.
- Parallel connections of telephone is impossible.

Fig. 5

INSTALLATION

Frame Ground Connection

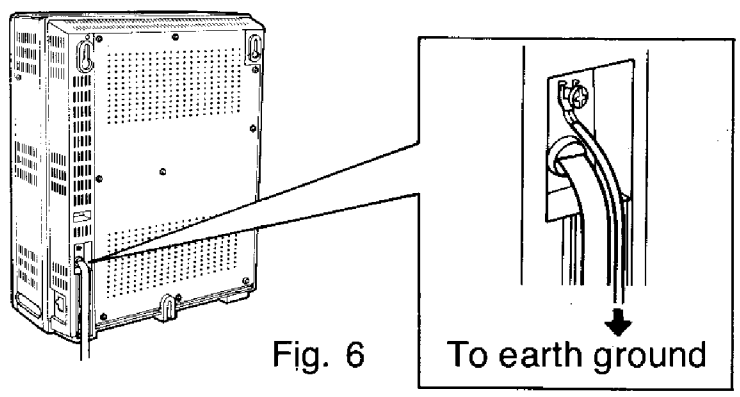
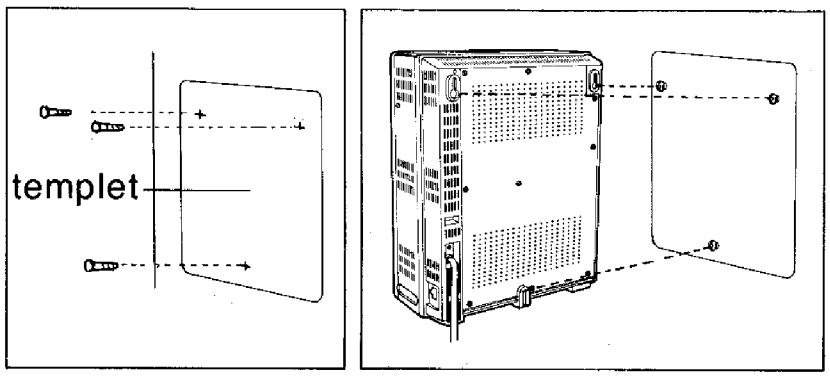


Fig. 6

Wall Mounting

1. Place the templet (included) on the wall to mark the 3 screw positions.
2. Install the 3 screws into the wall.
3. Hook the unit on the screw heads.

Fig. 7



How to remove the front cover from unit

1. Unscrew the front cover of the unit. There are four screws.
2. Open the front cover in the direction of the arrow Ⓐ.

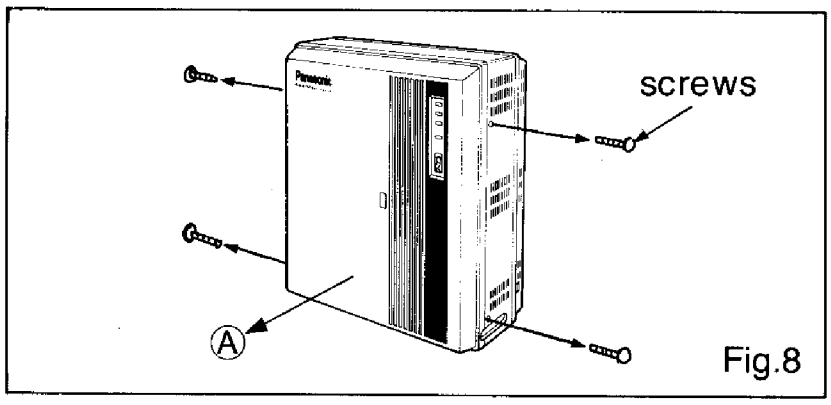


Fig.8

Rechargeable Battery Installation

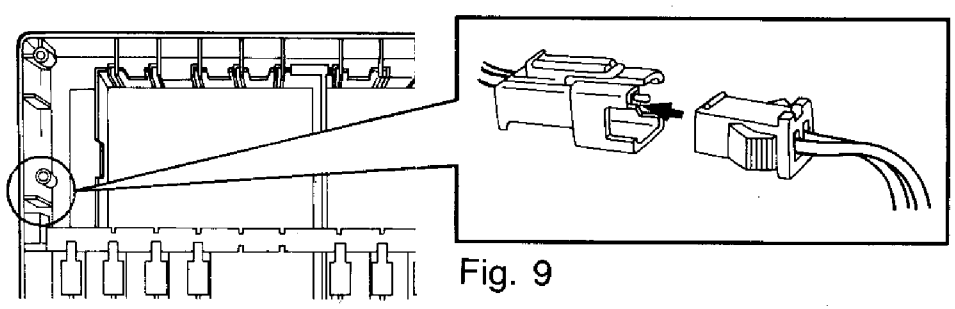
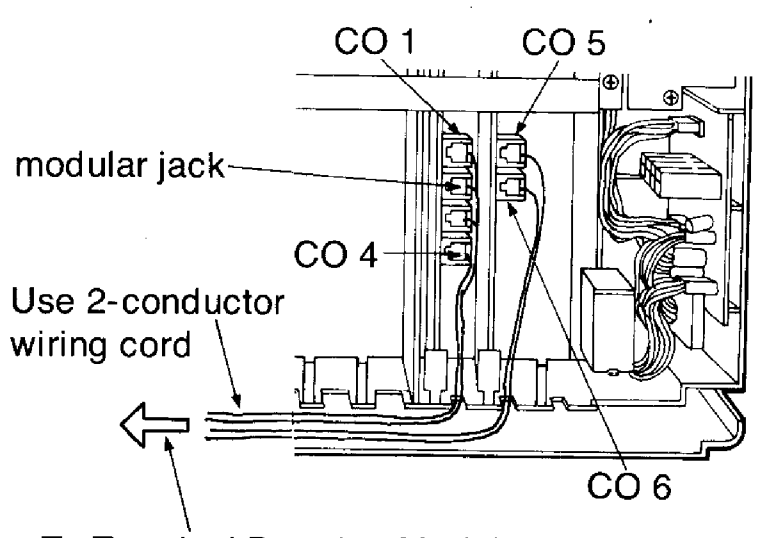


Fig. 9

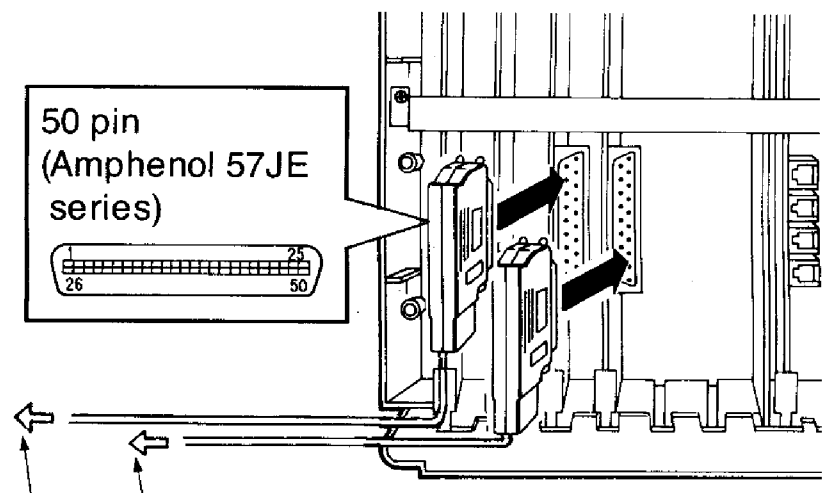
Central Office Line Connection (CO1 through 6)

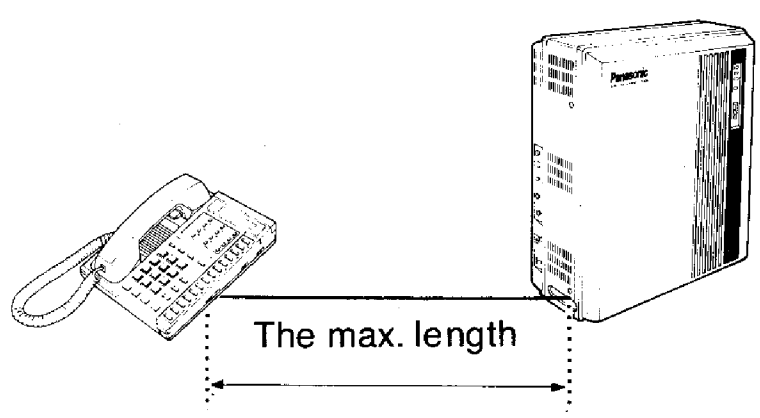


● To Terminal Board or Modular Jacks from the Central Office (CO).

Fig. 10

Extension Connection (Jack number 1 through 16)





Proprietary Telephone
- 26 AWG: Under 460 feet
- 24 AWG: Under 750 feet
- 22 AWG: Under 1180 feet

] Twisted cable

Standard Telephone
- 26 AWG: Under 2290 feet
- 24 AWG: Under 3700 feet
- 22 AWG: Under 5900 feet

] Twisted cable

Fig. 11

Cable Pin Numbers to be connected

■ Connection of the Proprietary Telephone (4-conductor wiring is required for each extension.)

CONN. PIN	CABLE COLOR	CLIP NO.	LC-1		LC-2	
26	WHT-BLU	1	JACK NO.1	T	JACK NO.9	T
1	BLU-WHT	2		R		R
27	WHT-ORN	3		D1		D1
2	ORN-WHT	4		D2		D2
28	WHT-GRN	5				
3	GRN-WHT	6				
29	WHT-BRN	7	JACK NO.2	T	JACK NO.10	T
4	BRN-WHT	8		R		R
30	WHT-SLT	9		D1		D1
5	SLT-WHT	10		D2		D2
31	RED-BLU	11				
6	BLU-RED	12				
32	RED-ORN	13	JACK NO.3	T	JACK NO.11	T
7	ORN-RED	14		R		R
33	RED-GRN	15		D1		D1
8	GRN-RED	16		D2		D2
34	RED-BRN	17				
9	BRN-RED	18				
35	RED-SLT	19	JACK NO.4	T	JACK NO.12	T
10	SLT-RED	20		R		R
36	BLK-BLU	21		D1		D1
11	BLU-BLK	22		D2		D2
37	BLK-ORN	23				
12	ORN-BLK	24				
38	BLK-GRN	25	JACK NO.5	T	JACK NO.13	T
13	GRN-BLK	26		R		R
39	BLK-BRN	27		D1		D1
14	BRN-BLK	28		D2		D2
40	BLK-SLT	29				
15	SLT-BLK	30				
41	YEL-BLU	31	JACK NO.6	T	JACK NO.14	T
16	BLU-YEL	32		R		R
42	YEL-ORN	33		D1		D1
17	ORN-YEL	34		D2		D2
43	YEL-GRN	35				
18	GRN-YEL	36				
44	YEL-BRN	37	JACK NO.7	T	JACK NO.15	T
19	BRN-YEL	38		R		R
45	YEL-SLT	39		D1		D1
20	SLT-YEL	40		D2		D2
46	VIO-BLU	41				
21	BLU-VIO	42				
47	VIO-ORN	43	JACK NO.8	T	JACK NO.16	T
22	ORN-VIO	44		R		R
48	VIO-GRN	45		D1		D1
23	GRN-VIO	46		D2		D2
49	VIO-BRN	47				
24	BRN-VIO	48				
50	VIO-SLT	49				
25	SLT-VIO	50				

T :Tip D1 : Data 1
R : Ring D2 : Data 2

■ Connection of a Standard Telephone (2-conductor wiring is required for each extension.)
Connect the pin number of “T” and “R” only.

Optional Cards Installation

1. To protect the printed circuit board from static electricity, first discharge any body static by touching the metal board.
2. Loosen the screws to remove the metal board.
3. The location of the optional cards for the KX-T123210 is shown in the following.

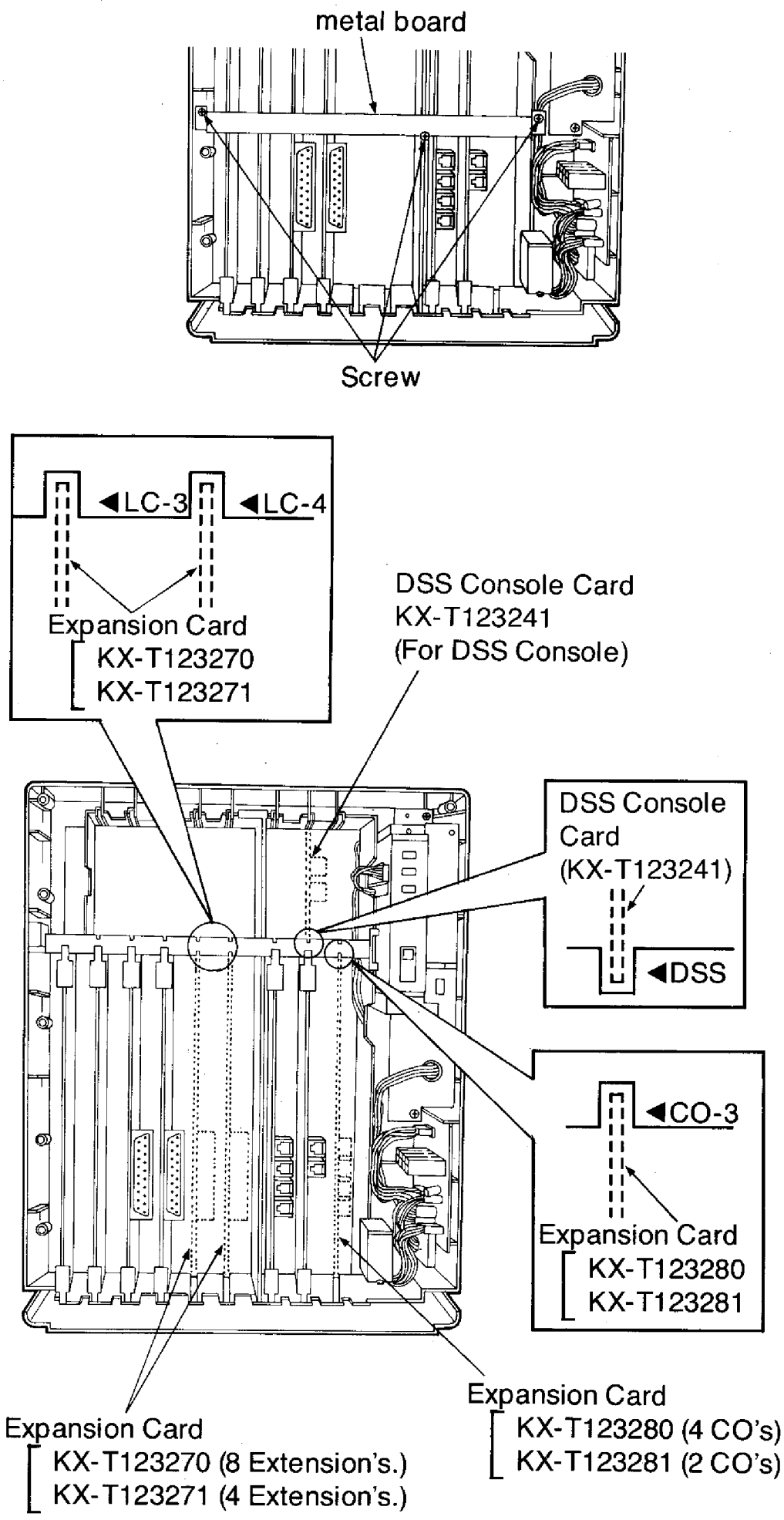


Fig. 12

Extension Connection (Jack number 17 through 32) option

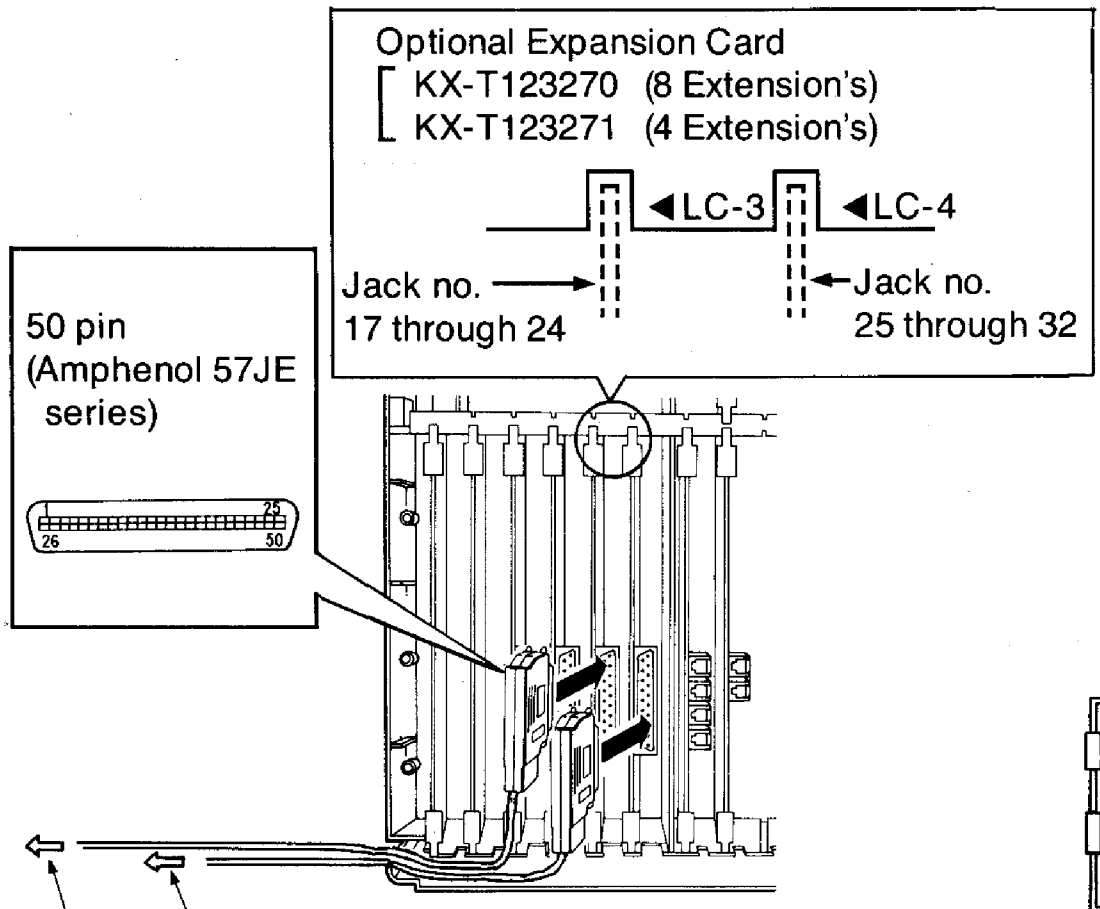


Fig. 13

Central Office Line Connection (CO9 through 12) option

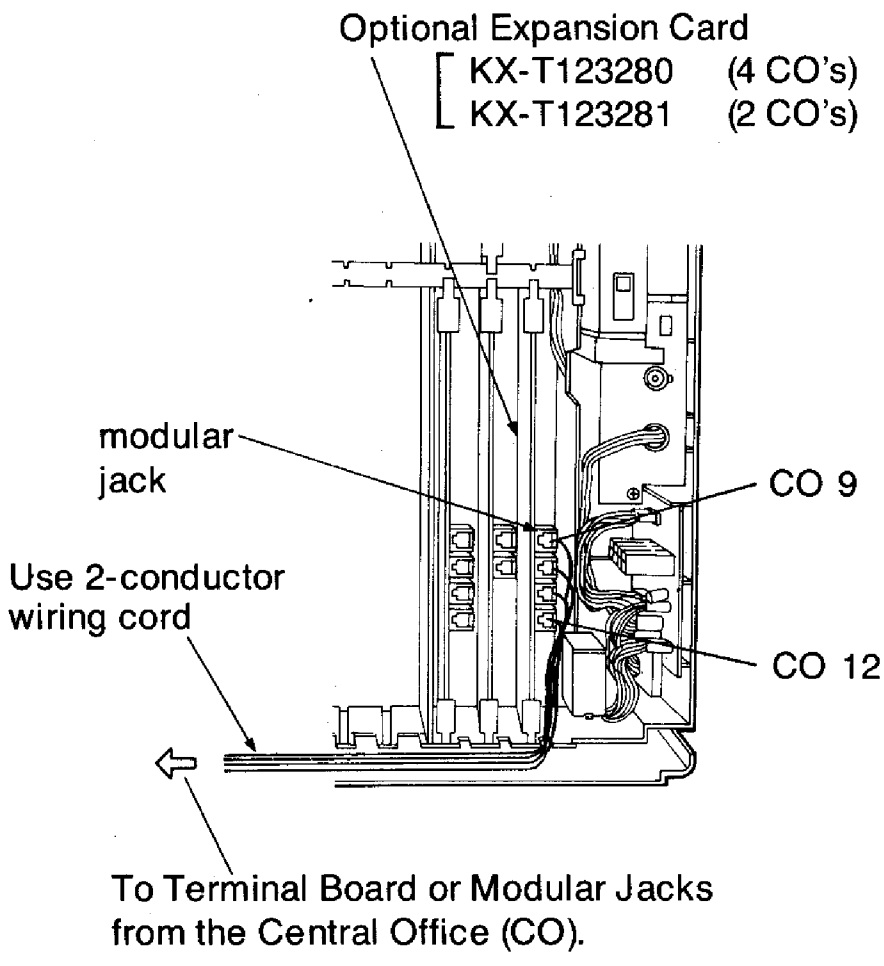


Fig. 14

Optional DSS Console Connection (KX-T123240 / KX-T61640)

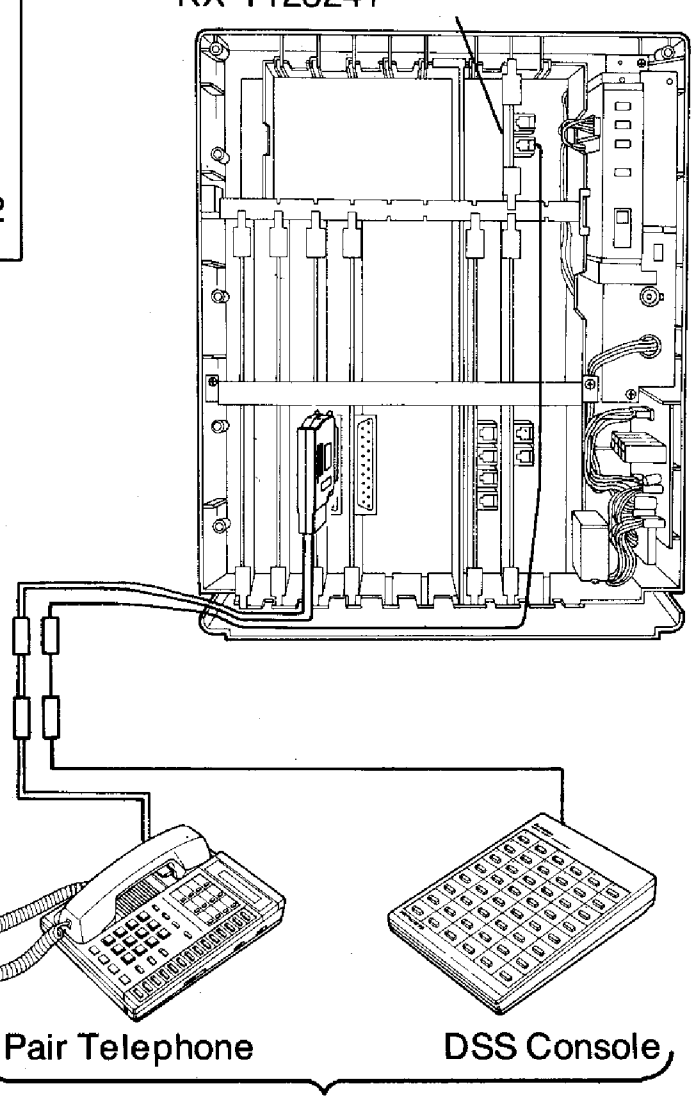


Fig. 15

- The DSS Console (KX-T123240 or KX-T61640) needs a paired Telephone (EMSS Proprietary Telephone) for proper operation, because the DSS console cannot work by itself.
- When using the DSS Console, program must be done.

Battery Connection

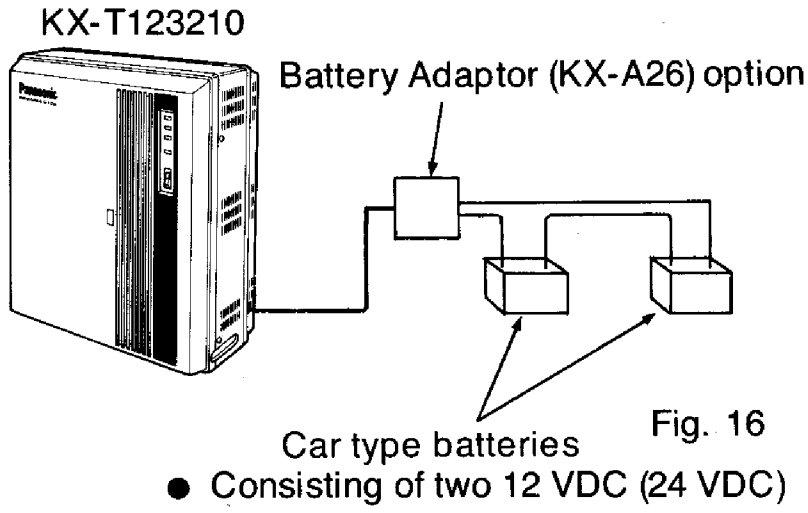


Fig. 16

- Consisting of two 12 VDC (24 VDC)
- 16 amp / hour maximum rating

Optional Doorphone Connection

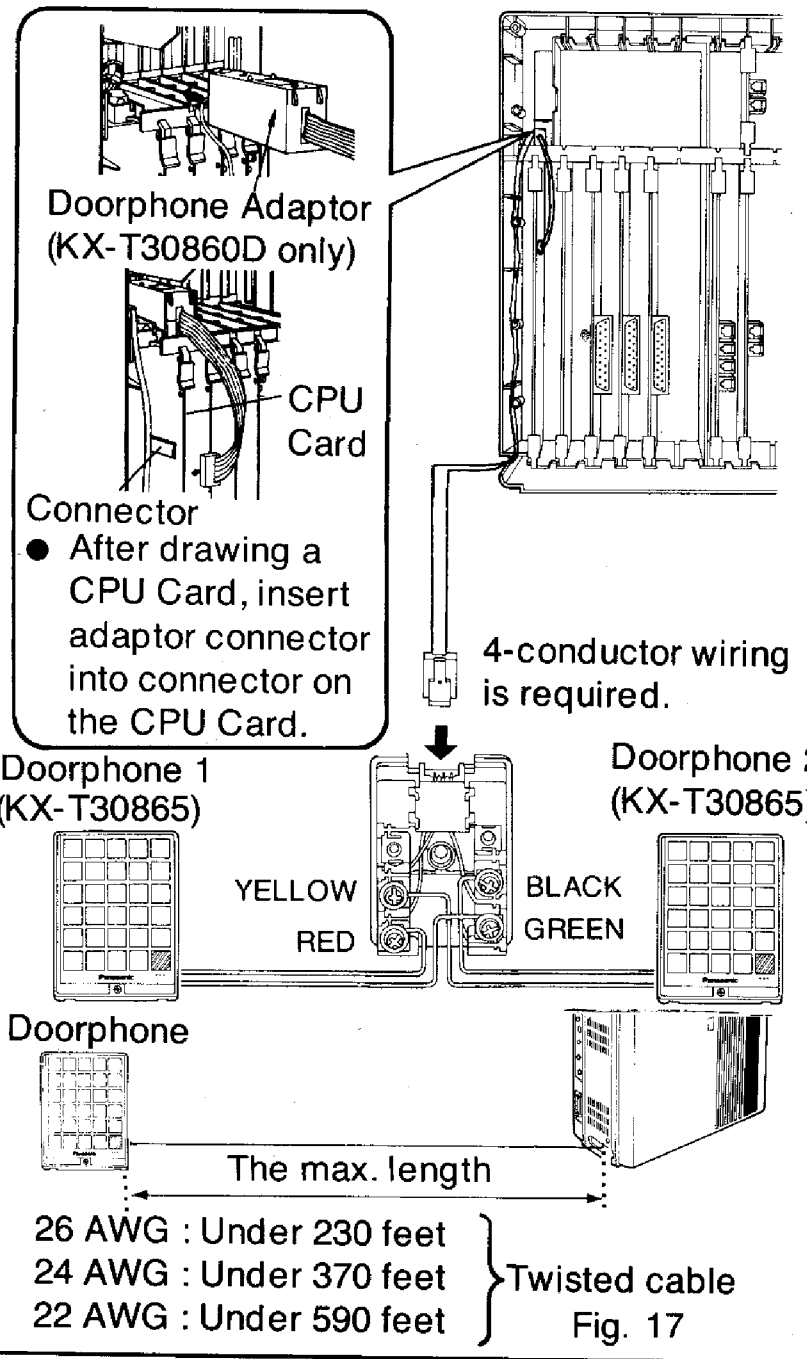


Fig. 17

Paging Equipment

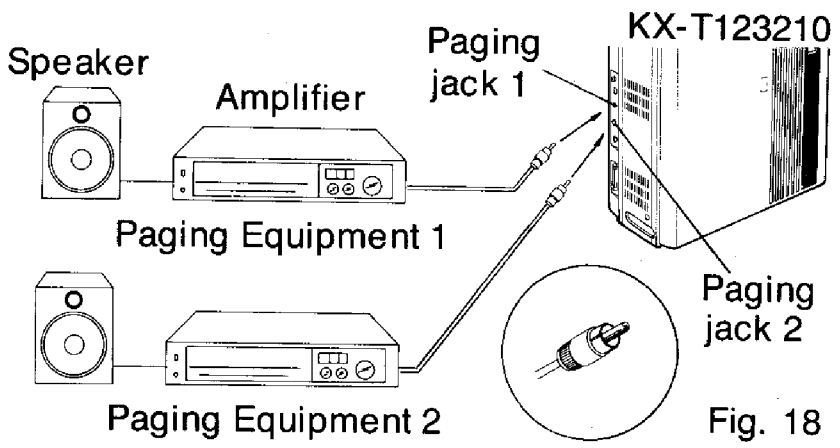


Fig. 18

External Music Source

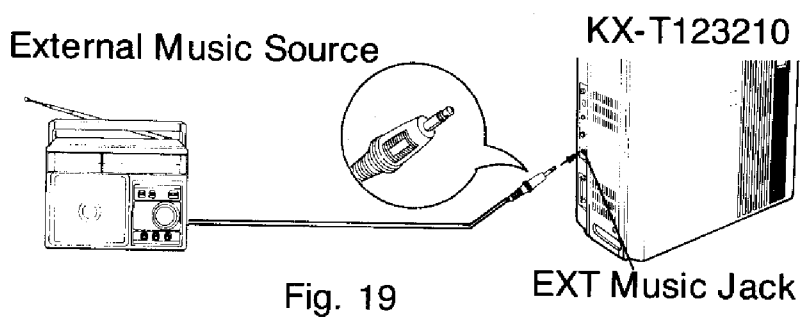


Fig. 19

Printer Connection

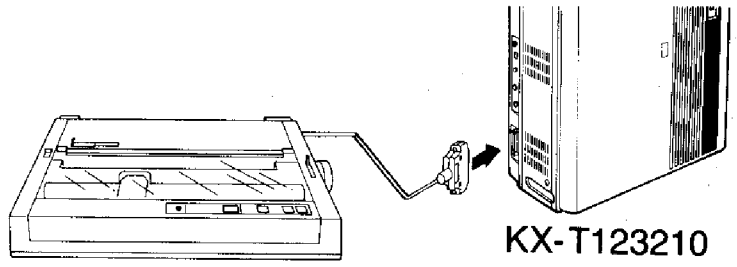


Fig. 20

● Cables must be shielded and the maximum length is 6.5 feet.

Connection Chart:

KX-T123210 RS-232C

Circuit Type (EIA)	Signal Name	Pin No.
AA	FG	1
BA	TXD	2
BB	RXD	3
CB	CTS	5
CC	DSR	4,6
AB	SG	7
CD	DTR	20

Printer RS-232C

Pin No.	Signal Name	Circuit Type (EIA)
1	FG	AA
3	RXD	BB
2	TXD	BA
20	DTR	CD
7	SG	AB
5	CTS	CB
6	DSR	CC
8	DCD	CF

Communication parameters

If the Panasonic printer which is used has a (KX-P11D or KX-P17) board and is connected to the KX-T123210, set the communication parameters the following.

	KX-T123210	KX-P11D		KX-P17	
		DIP Switch	Setting	DIP Switch	Setting
Word length	7bit (default)	SW1-1	ON	SW1-4	ON
Parity	Program to "EVEN"	SW1-2 SW1-3	ON ON	SW1-5 SW1-6	OFF OFF
Baud Rate	1200B (default)	SW1-5 SW1-6 SW1-7 SW1-8	ON OFF OFF OFF	SW1-1 SW1-2 SW1-3	OFF OFF ON
Protocol	XON / XOFF mode only	SW2-8	OFF	SW1-8	ON

KX-T123210

PROGRAMMING

To activate this system, the requirements from telephone company and the customer must be programmed once the Power Switch has been turned on.

Programming Instructions

1. At extension connected to jack number 01: All system programming changes (example : system clear, toll restriction, system speed dialing entry···) are done through extension connected to jack number 01.

   - **Extension connected to jack number 01 must always be a Panasonic model, KX-T123230.**

2. System Program Switch setting:
   The System Program Switch located on the KX-T123210 must be set to the "PITS" (Proprietary Integrated Telephone System) position while making program changes. After all programming changes are completed, return the program switch to the "SET" position.

3. Overlay:
   This overlay is used for programming the system and the program function names are inscribed on this card.

4. Before system programming, operate the system clear to set to the default data of the program.

   System Clear:
   - Set the System Program Switch of the KX-T123210 to the "PITS" position.

   1. Dial (99).
      "System Clear" will be displayed.
   2. Press the NEXT button.
   3. Repeat pressing the SELECT button until the "Menu: All Para" is displayed.
   4. Press the MEMORY button to clear system.
   5. To return to the initial program mode, press the END button.

   - The following parameters are preset as the default data.
     - System parameters
     - CO parameters
     - Extension parameters
     - DSS parameters
     - Speed call

When the System Program Switch on the KX-T123210 is set to the "PITS" position, the operation of the KX-T123230 connected to jack number 01 will change as follows.

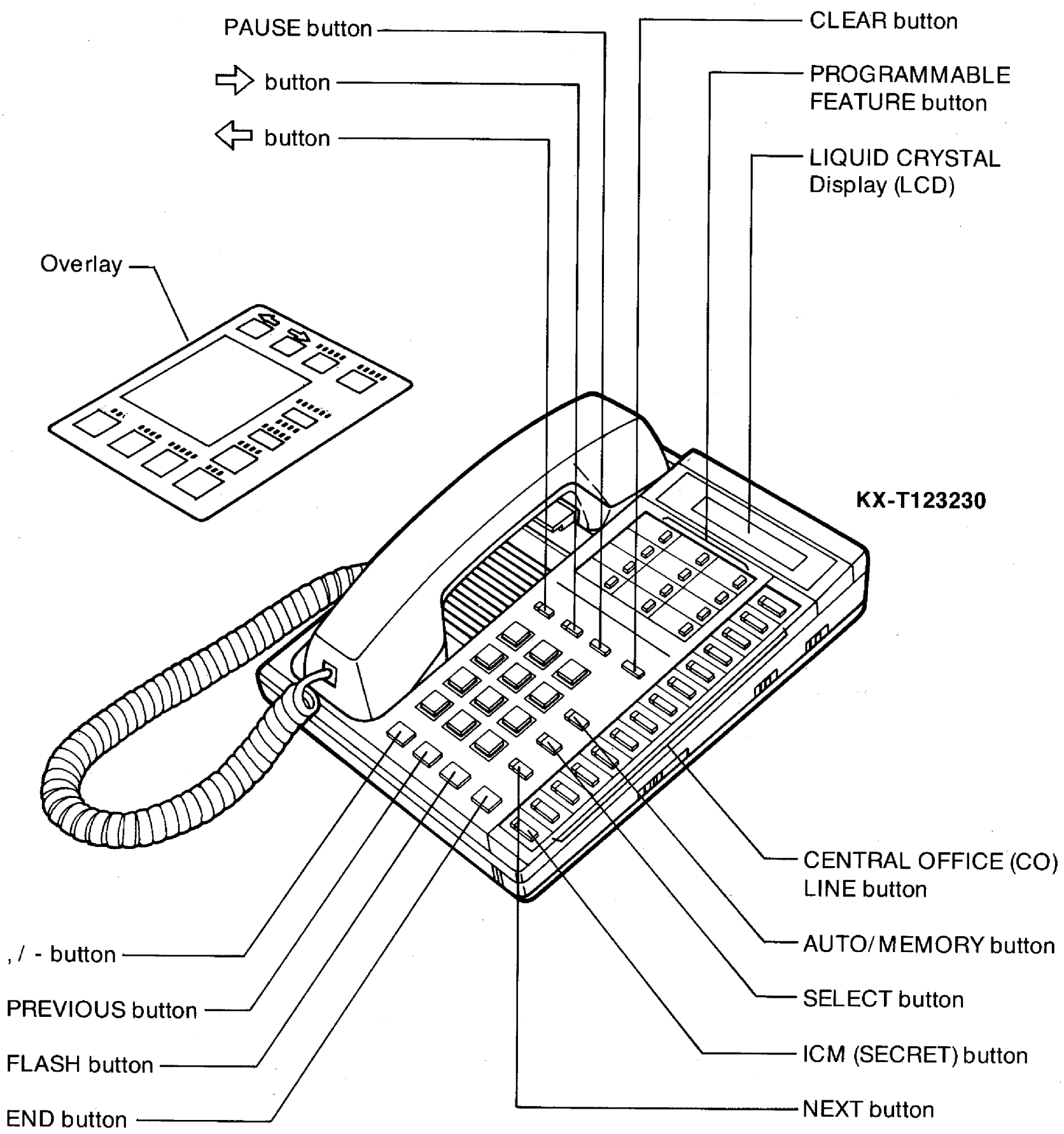


Fig. 21

Example of Programming

1. Turn the Power Switch to ON .

2. Set the System Program Switch to "PITS" position.
The LCD on the KX-T123230 will show "SYS-PGM NO ?—".
- Be sure the handset of the extension connected to jack number 01 is in the cradle and the speakerphone button off.

3. To program automatic line access number 9 and the phone number 987-654-3210 into speed access code 00.

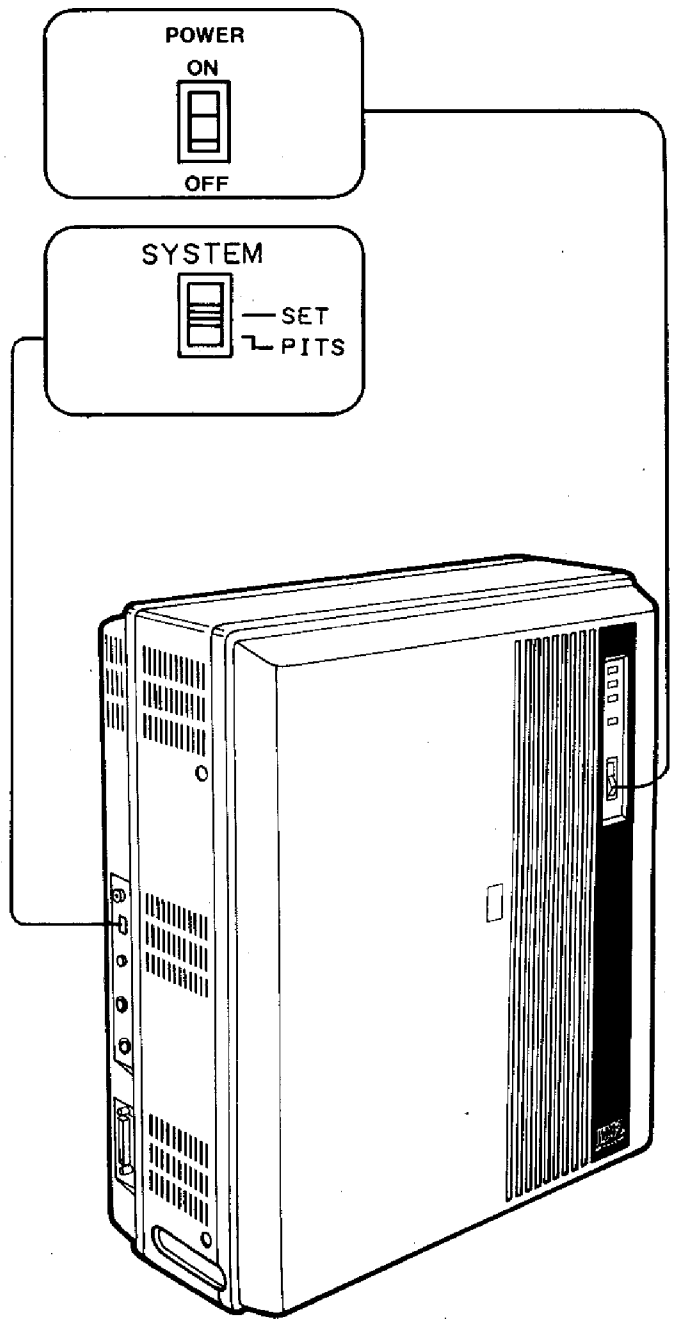


Fig. 22

KX-T123230 at extension connected to jack number 01.
(Extension connected to jack number 01 must be a KX-T123230.)

1.	Dial (01) or press the Auto button.	Display Speed Dialing
2.	Press the NEXT button.	Speed NO? →
3.	Dial (00) or press the NEXT button.	● If nothing is stored in access code "00", 00: Not Stored ● If already stored the automatic line access number 9 and the phone number 123-456-7890, 00: 9-123-456-789
4.	① Dial "9". ② Press " – " button. ③ Dial "987". ④ Press " – " button. ⑤ Dial "654". ⑥ Press " – " button. ⑦ Dial "3210".	00: -987-654-3210
5.	Press the MEMORY button.	00: -987-654-3210
6.	● To program the next access code, press the NEXT button. ● To program a desired access code, press the SELECT button and dial speed access code.	
7.	Repeat steps 4 to 6.	
8.	To return to the initial program mode, press the END button.	SYS-PGM NO ?→

4. Return the System Program Switch to "SET" position.
- To make program change, start from the beginning.

While programming if a mistake is made,

1. Press the "END" button.

2. Start programming procedure from the beginning.

- You will hear a beep after pressing the MEMORY button.

- The MEMORY indicator light will go on when the MEMORY button is pressed, and then the Indicator light will go out when the NEXT or PREV button is pressed.

■ PROGRAMMING TABLE

System Feature

Installation Manual Page

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE FOR DETAILS	PAGE PROGRAM TABLE
Date and Time Setting	00	NEXT AB ⇨ SELECT ⇨ CD ⇨ SELECT ⇨ EF AB: year; CD: month; EF: day; SELECT: day of the week; hour ⇨ GH ⇨ SELECT MEMORY END GH: minute; SELECT: AM / PM		3-4	
System Speed Dialing Entry	01 or AUTO	NEXT AB CD SELECT phone number MEMORY END 9 : automatic line access number 8 1 through 8 8 : access number of Trunk Group AB: Speed access code (00 through 99)	Nothing is stored	3-5	7-1
Extension Number Assignment	02	NEXT NEXT CDE MEMORY END CDE: dial the extension number (100 through 199) NEXT: until the desired jack number appears	101 : jack number 01 102 : jack number 02 ⋮ 131 : jack number 31 132 : jack number 32	3-8	7-3
Operator Assignment	03	NEXT NEXT AB MEMORY END AB: dial the jack number which is set operator NEXT: until the desired operator number appears	Nothing is stored	3-9	7-3
Paired Telephone Assignment for DSS Console	04	NEXT NEXT AB MEMORY NEXT CD MEMORY END CD: jack number paired with console 2 AB: jack number paired with console 1	jack number 01 : console 1 jack number 02 : console 2	3-10	7-3
Automatic CO Hold Using DSS Button	05	NEXT SELECT MEMORY END SELECT: With Transfer / Without Transfer	With Transfer	3-11	7-3
Day/Night Service Mode Switching of Service Mode	06	NEXT SELECT MEMORY END SELECT: Manual / Automatic	Manual	3-12	7-4
Starting Time	07	NEXT AB ⇨ CD ⇨ SELECT MEMORY NEXT AB: starting time for day service (hour); CD: minute; SELECT: AM / PM ⇨ EF ⇨ GH ⇨ SELECT MEMORY END EF: starting time for night service (hour); GH: minute; SELECT: AM / PM	Day Service : 9:00AM Night Service : 5:00PM	3-13	7-4
Call Hunting Setting	08	NEXT NEXT SELECT MEMORY END SELECT: Disable / Enable NEXT: until the desired extension group number appears	Disable : all 8 extension groups	3-15	7-4
Hunting Type	09	NEXT NEXT SELECT MEMORY END SELECT: Terminate / Circular NEXT: until the desired extension group number appears	Terminate : all 8 extension groups	3-16	7-4

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TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE FOR DETAILS	PAGE PROGRAM TABLE
Toll Restriction Area Type Selection	10	NEXT SELECT MEMORY END ..... Type A / Type B / Type C	Type A	3-18	7-4
CO Operator Call-Boundary Class	11	NEXT A MEMORY END ..... dial the boundary class number (1 through 8)	Class 1	3-19	7-4
Toll Restriction of Speed Dialing	12	NEXT SELECT MEMORY END ..... Restriction / No restriction	Restriction	3-20	7-5
Exchange Code Selection	13	NEXT NEXT CDE MEMORY END ..... exchange code with 3 digits ..... until the desired memory code number appears	Nothing is stored	3-21	7-5
Area Code Entry for class 3	14	NEXT NEXT CDE MEMORY END ..... area code with 3 digits ..... until the desired memory code number appears	Nothing is stored	3-22	7-5
Exchange Code Entry for Class 5	15	NEXT NEXT CDE MEMORY END ..... exchange code with 3 digits ..... until the desired memory code number appears	Nothing is stored	3-23	7-5
Exchange Code Entry for Class 7	16	NEXT NEXT CDE MEMORY END ..... exchange code with 3 digits ..... until the desired memory code number appears	Nothing is stored	3-24	7-6

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Hold Time Reminder	17	Refer to page 3-25	7-6
Hold Recall Time Set	18	Refer to page 3-26	7-6
Transfer Recall Time	19	Refer to page 3-27	7-6
Call Forwarding Starting Time	20	Refer to page 3-28	7-6
Pickup Dial Delay Time	21	Refer to page 3-29	7-6
CO-to-CO Duration Time Limit	22	Refer to page 3-30	7-7
External Paging Access Tone	29	Refer to page 3-41	7-9

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TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
SMDR RS-232C Communication Parameters	23	Refer to page 3-32	7-7
SMDR Parameters	24	Refer to page 3-35	7-8
Incoming/ Outgoing call Selection for printing	25	Refer to page 3-36	7-8
Secret Speed dial/ One Touch Dial Printing	26	Refer to page 3-36	7-8
System Data Dump	27	Refer to page 3-37	7-8
Duration Time Count Start Mode	28	Refer to page 3-40	7-9

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Outside Line Feature

Installation Manual Page

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE FOR DETAILS	PAGE PROGRAM TABLE
CO Connection Assignment	40	NEXT NEXT SELECT MEMORY END Connect / Not Connect until the desired CO number appears	Connect : all CO's	3-42	7-9
Dial Mode (DTMF/Pulse) DTMF / Pulse Selection	41	NEXT NEXT SELECT MEMORY END DTMF Mode / Pulse Mode until the desired CO number appears	DTMF : all CO's	3-43	7-9
Pulse Speed Selection	42	NEXT NEXT SELECT MEMORY END Low Speed / High Speed until the desired CO number appears	Low speed : all CO's	3-44	7-9
Trunk Group Assignment	44	NEXT NEXT A MEMORY END dial the trunk group number (1 through 8) until the desired CO number appears	Trunk-G1 : CO 1 Trunk-G2 : CO 2 Trunk-G3 : CO 3 Trunk-G4 : CO 4 Trunk-G5 : CO 5 Trunk-G6 : CO 6 Trunk-G7 : CO 7 Trunk-G8 : CO 8, CO 9 CO 10, CO 11 CO 12	3-46	7-10
Flexible Outward Dialing Assignment Day Mode	45	other CO number other jack number NEXT NEXT ⇨ SELECT MEMORY END Enable / Disable until the desired jack number appears until the desired CO number appears	Enable : all jack numbers	3-47	7-11
Night Mode	46	other CO number other jack number NEXT NEXT ⇨ SELECT MEMORY END Enable / Disable until the desired jack number appears until the desired CO number appears	Enable : all jack numbers	3-48	7-12
Flexible Ringing Assignment Day Mode	47	other CO number other jack number NEXT NEXT ⇨ SELECT MEMORY END Enable / Disable until the desired jack number appears until the desired CO number appears	Enable : all jack numbers	3-49	7-13
Night Mode	48	other CO number other jack number NEXT NEXT ⇨ SELECT MEMORY END Enable / Disable until the desired jack number appears until the desired CO number appears	Enable : all jack numbers	3-51	7-14

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TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
CO Direct In Line Assignment Day Mode	51	● Selecting "Normal" mode NEXT NEXT SELECT MEMORY END Normal until the desired CO number appears ● Selecting "DIL" mode NEXT NEXT SELECT CD MEMORY END DIL Dial jack number until the desired CO number appears	Normal : all CO's	3-54	7-19
Night Mode	52	● Selecting "Normal" mode NEXT NEXT SELECT MEMORY END Normal until the desired CO number appears ● Selecting "DIL" mode NEXT NEXT SELECT CD MEMORY END DIL Dial jack number until the desired CO number appears	Normal : all CO's	3-57	7-19

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Host PBX Access Codes Assignment	43	Refer to page 3-45	7-10
Delayed Ringing Assignment Day Mode	49	Refer to page 3-52	7-15 7-16
Night Mode	50	Refer to page 3-53	7-17 7-18

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Pause Time Assignment	53	Refer to page 3-59	7-20
Hookswitch Flash Timing	54	Refer to page 3-60	7-20
Calling Party Control (CPC) Signal	55	Refer to page 3-61	7-20
Disconnect Time	56	Refer to page 3-62	7-20

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Installation Manual Page

Extension Feature

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
Extension Group Assignment	60	NEXT NEXT A MEMORY END dial the extension group number (1 through 8) until the desired jack number appears	EXT GRP-1 : all jack numbers	3-63	7-21
Call Transfer To Outside Line	65	NEXT NEXT SELECT MEMORY END Enable / Disable until the desired jack number appears	Disable : all jack numbers	3-71	7-23

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TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE FOR DETAILS	PAGE PROGRAM TABLE
Service Class Assignment of Toll Restriction Day Mode	61	NEXT NEXT C MEMORY END dial the service class number (1 through 8) until the desired jack number appears	Class 1 : all jack numbers	3-64	7-21
Night Mode	62	NEXT NEXT C MEMORY END dial the service class number (1 through 8) until the desired jack number appears	Class 1 : all jack numbers	3-66	7-22
Call Forwarding To Outside Line	66	NEXT NEXT SELECT MEMORY END Enable / Disable until the desired jack number appears	Disable : all jack numbers	3-72	7-23
Excecutive Override	67	NEXT NEXT SELECT MEMORY END Enable / Disable until the desired jack number appears	Disable : all jack numbers	3-73	7-23
Do not Disturb Override	68	NEXT NEXT SELECT MEMORY END Enable / Disable until the desired jack number appears	Disable : all jack numbers	3-74	7-24

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Extension Name	63	Refer to page 3-68	7-1
Account Code Input Mode	64	Refer to page 3-70	7-22

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Ringing Assignment from Doorphone Day Mode	70	Refer to page 3-75	7-24
Night Mode	71	Refer to page 3-76	7-25

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE FOR DETAILS	PAGE PROGRAM TABLE
System Data Clear	99	● All Parameters ● System Parameter ● Speed Call NEXT SELECT MEMORY END All Para / System Para / CO Para / EXT Para / DSS Para / Speed Call ● CO Parameter NEXT SELECT MEMORY AB MEMORY END dial CO number until the CO Para appears ● EXT Parameter NEXT SELECT MEMORY AB MEMORY END dial jack number until the EXT Para appears ● DSS Parameter NEXT SELECT MEMORY A MEMORY END dial DSS number (1 or 2) until the DSS Para appears	All Parameters	3-78	

KX-T123210

FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.
When repairing, the following precautions will help prevent recurring malfunctions.
- Cover plastic parts boxes with aluminum foil.
- Ground soldering irons.
- Use a conductive mat on worktable.
- Do not grasp IC or LSI pins with bare fingers.

DISASSEMBLY INSTRUCTIONS

1. HOW TO REMOVE THE FRONT CABINET

1) Remove the four screws (A).
2) Remove the front cabinet.

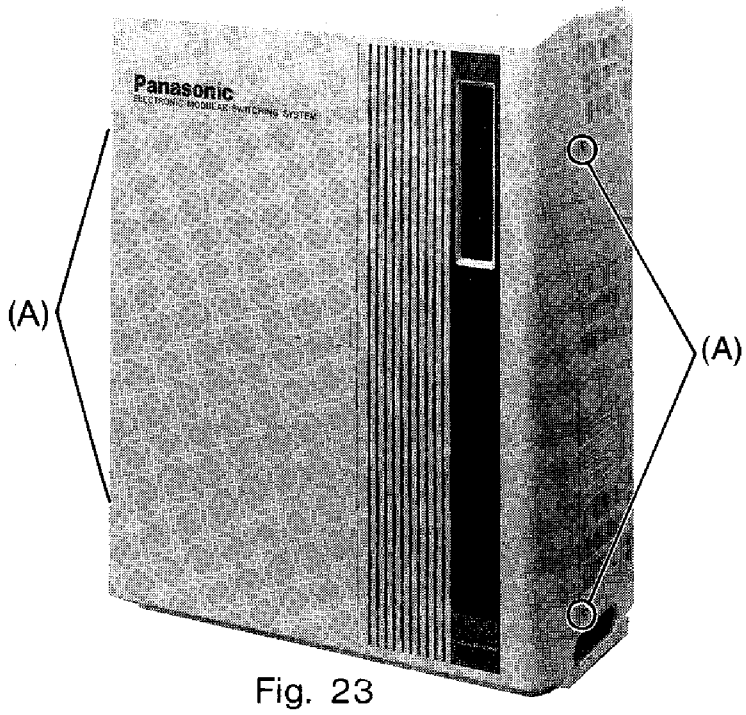


Fig. 23

2. HOW TO REMOVE THE EACH BOARDS

1) Remove the three screws (B).
2) Remove the angle.
3) Remove the board.
4) When attach the board, be sure lock the board.

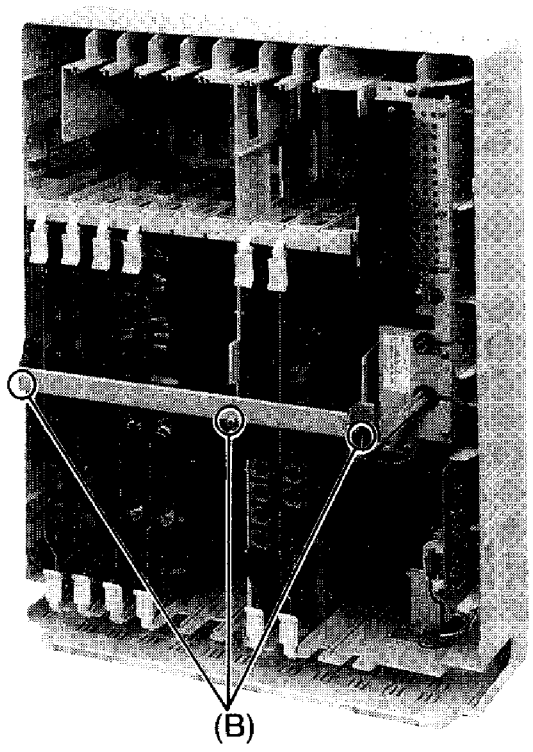


Fig. 24

3. HOW TO REMOVE THE MAIN BOARD

1) Remove the nine screws (C).
2) Remove the rear cover.
3) Remove the fourteen screws (D).
4) Pull out the five connectors of power board and power unit. (Refer to Fig. 27)

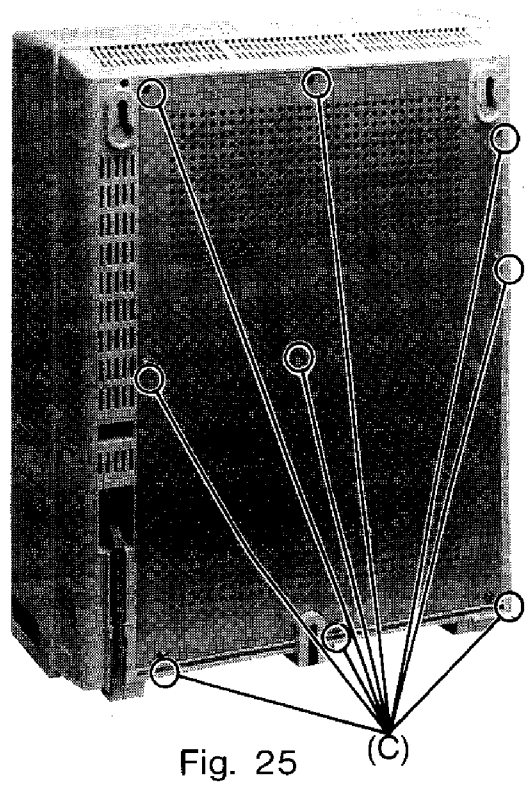


Fig. 25

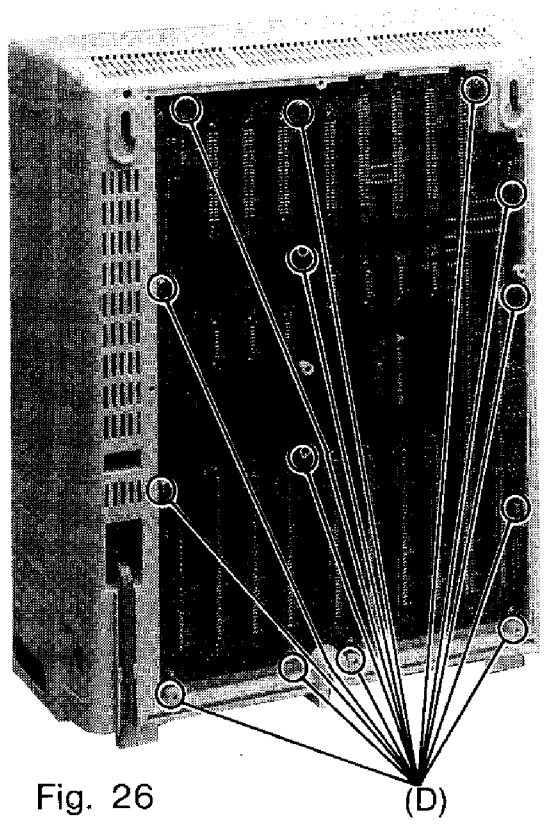


Fig. 26

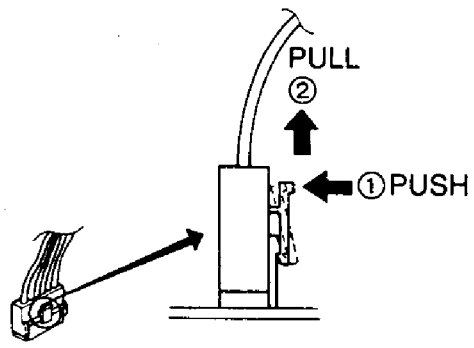


Fig. 27

4. HOW TO REMOVE THE POWER BOARD

1) Pull out the five connectors. (Refer to Fig.27)
2) Remove the power board.

5. HOW TO DISASSEMBLY THE POWER UNIT

1) Remove the two screws (E).
2) Pull out the two connectors.
3) Remove the power unit.
4) Remove the twelve screws (F).
5) Remove the three screws (G).
6) Remove the cover.
7) Remove the seven screws (H).
8) Remove the board.

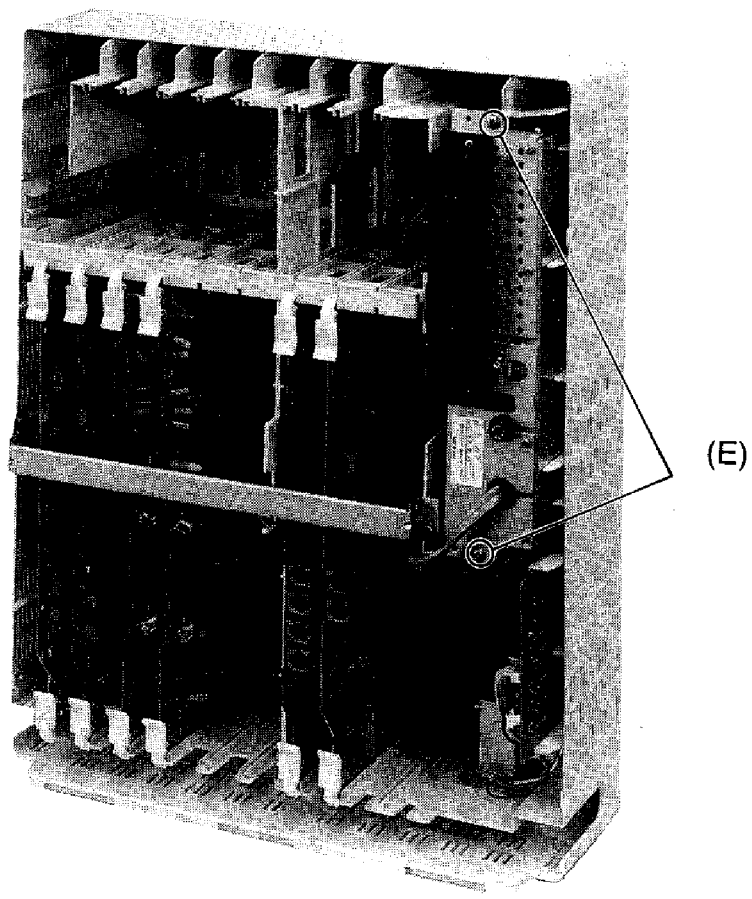
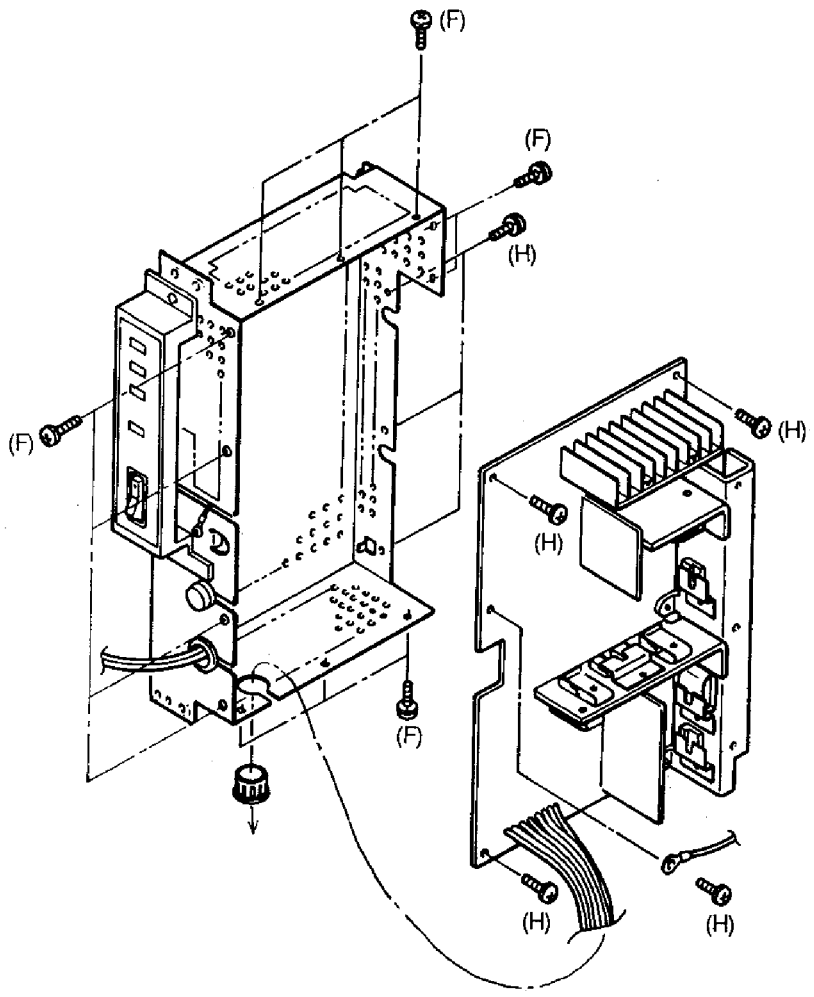


Fig. 28



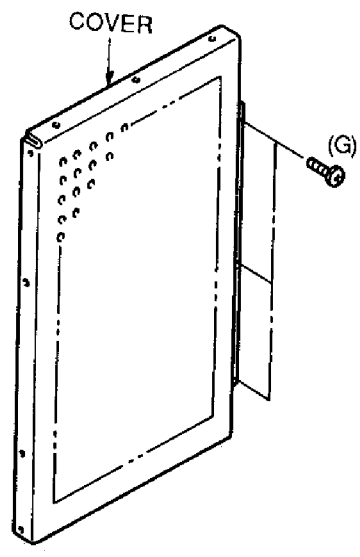


Fig. 29

IC I/O DATA

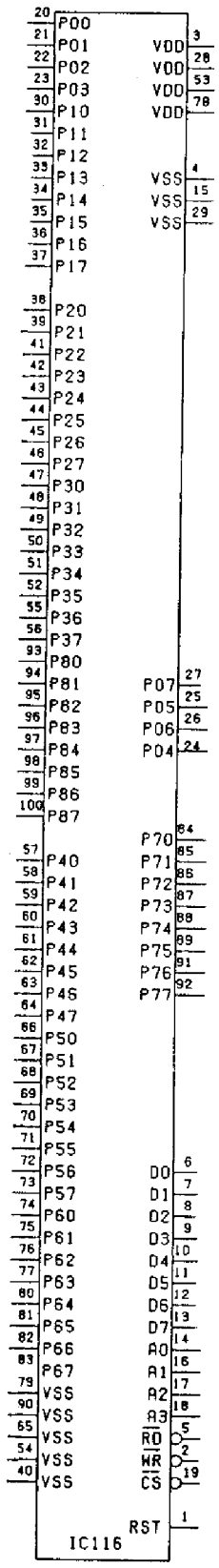
IC116

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
20	P00	DAY	O	*1	H	Day Mode LED
21	P01	NIGHT	O	*1	H	Night Mode LED
22	P02	HALT	O	H	L	DISA CPU HALT
23	P03	RESET	O	H	L	CPR Reset : Watch Dog Control
24	P04	INT	O	L	L	350, 440, 620 Hz Tone Send, CPU Start/Stop Control
25	P05	STOP	O	H	L	CPR HALT: Momentary Power Failures Response
26	P06	RSDOWN	O	H	L	RS-232C Driver Power Down Control
27	P07	-----	---	---	---	Not Used
30	P10	CNMD	I	---	L	Optional Modem Card Existence Detection
31	P11	CNDISA	I	---	L	Optional DISA Card Existence Detection
32	P12	-----	---	---	---	Not Used
33	P13	-----	---	---	---	Not Used
34	P14	-----	---	---	---	Not Used
35	P15	-----	---	---	---	Not Used
36	P16	-----	---	---	---	Not Used
37	P17	CNDIAG	I	---	L	Optional Diagnosis Card Existence Detection
38	P20	-----	---	---	---	Not Used
39	P21	-----	---	---	---	Not Used
41	P22	-----	---	---	---	Not Used
42	P23	-----	---	---	---	Not Used
43	P24	-----	---	---	---	Not Used
44	P25	-----	---	---	---	Not Used
45	P26	-----	---	---	---	Not Used
46	P27	CNXP	I	---	L	Cross Point Card Existence Detection
47	P30	PDRLY1	O	L	H	Extension Card 1 Extension 1 Power Failure Relay
48	P31	PDRLY2	O	L	H	Extension Card 1 Extension 2 Power Failure Relay
49	P32	PDRLY3	O	L	H	Extension Card 2 Extension 9 Power Failure Relay
50	P33	PDRLY4	O	L	H	Extension Card 2 Extension 10 Power Failure Relay
51	P34	PDRLY5	O	L	H	Extension Card 3 Extension 17 Power Failure Relay
52	P35	PDRLY6	O	L	H	Extension Card 3 Extension 18 Power Failure Relay
55	P36	-----	---	---	---	Not Used
56	P37	-----	---	---	---	Not Used
57	P40	POW 1	O	H	L	DTMF G Control
58	P41	POW 2	O	H	L	DTMF G Control
59	P42	POW 3	O	H	L	DTMF G Control
60	P43	POW 4	O	H	L	DTMF G Control
61	P44	COL 1	O	H	L	DTMF G Control
62	P45	COL 2	O	H	L	DTMF G Control
63	P46	COL 3	O	H	L	DTMF G Control
64	P47	COL 4	O	H	L	DTMF G Control
66	P50	STD 1	I	---	H	DTMF R1 Signal Receive Detection
67	P51	STD 2	I	---	H	DTMF R2 Signal Receive Detection
68	P52	STD 3	I	---	H	DTMF R3 Signal Receive Detection
69	P53	-----	---	---	---	Not Used
70	P54	SS	I	---	L	RS-232C
71	P55	DCD	I	---	L	RS-232C
72	P56	PDSIG	I	---	L	AC Power Down
73	P57	DROP2	I	---	L	Optional Doorphone Card Existence Detection
74	P60	CNCT1	I	---	H	Doorphone 1 Connect Detection
75	P61	CNCT2	I	---	H	Doorphone 2 Connect Detection
76	P62	DHK1	I	---	H	Doorphone 1 Switch Detection
77	P63	DHK2	I	---	H	Doorphone 2 Switch Detection
80	P64	BUSY1	O	H	L	Doorphone 1 Power Supply Control
81	P65	BUST2	O	H	L	Doorphone 2 Power Supply Control
82	P66	20 Hz	O	H	20Hz	Extension Bell Signal
83	P67	SCA	O	L	L	RS-232C

*1: Be based on operate condition.

IC116

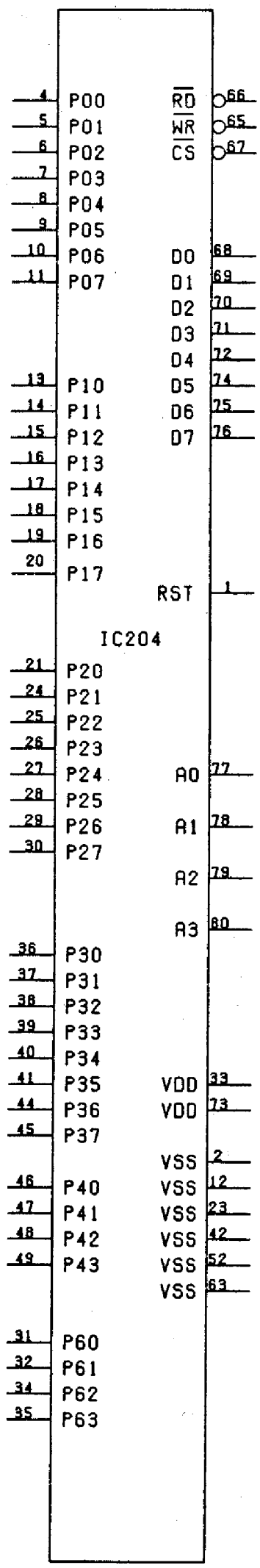
Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
84	P70	-----	---	---	---	Not Used
85	P71	-----	---	---	---	Not Used
86	P72	-----	---	---	---	Not Used
87	P73	-----	---	---	---	Not Used
88	P74	TEST1	I	---	L	Test Input 1 (Not Used)
89	P75	TEST2	I	---	L	Test Input 2 (Not Used)
91	P76	PRG1	I	---	L	PITS Program Mode
92	P77	PRG2	I	---	L	EIA Program Mode
93	P80	-----	---	---	---	Not Used
94	P81	-----	---	---	---	Not Used
95	P82	-----	---	---	---	Not Used
96	P83	-----	---	---	---	Not Used
97	P84	PDRLY7	O	L	H	Extension Card 4 Extension 25, 26 Power Failure Relay
98	P85	DRLY1	O	L	H	Diagnosis Card Relay 1
99	P86	DRLY2	O	L	H	Diagnosis Card Relay 2
100	P87	DRLY3	O	L	H	Diagnosis Card Relay 3



IC204

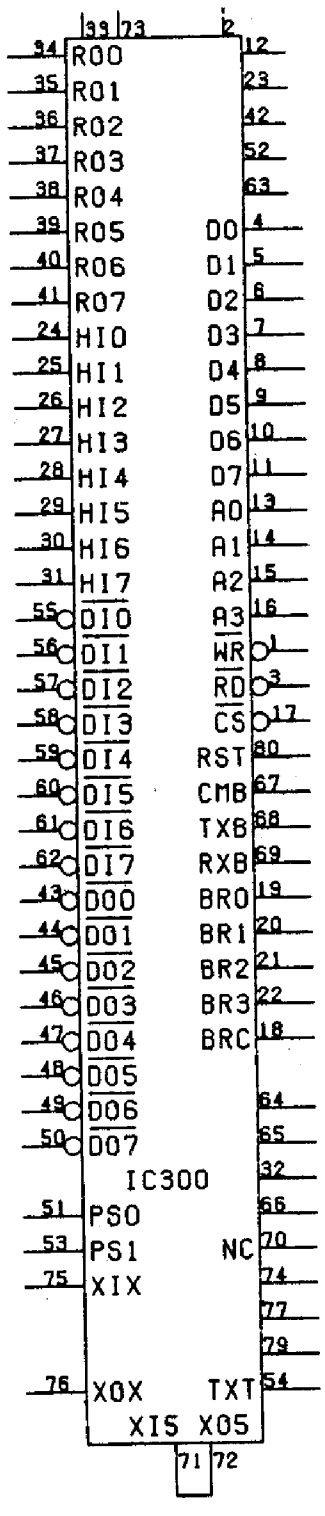
Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks	
4	P00	CF1	O	H	L	Conference Call Switch	COL1
5	P01	MT1	O	H	H	Mute Switch	COL1
6	P02	DL1	O	L	H	Dial Relay	COL1
7	P03	DS1	O	L	H	Spark Erase Relay	COL1
8	P04	SH1	O	L	L	Shunt Switch	COL1
9	P05	BR1	O	H	H	Oscillate Prevent Switch	COL1
10	P06	DIG1	O	L	H	Diagnosis Relay	COL1
11	P07	BELL1	I	---	*1	Bell/CPC 400 msec Input	COL1
13	P10	CF2	O	H	L	Conference Call Switch	COL2
14	P11	MT2	O	H	H	Mute Switch	COL2
15	P12	DL2	O	L	H	Dial Relay	COL2
16	P13	DS2	O	L	H	Spark Erase Relay	COL2
17	P14	SH2	O	L	H	Shunt Switch	COL2
18	P15	BR2	O	H	H	Oscillate Prevent Switch	COL2
19	P16	DIG2	O	L	H	Diagnosis Relay	COL2
20	P17	BELL2	I	---	*1	Bell/CPC 400 msec Input	COL2
21	P20	CF3	O	H	L	Conference Call Switch	COL3
24	P21	MT3	O	H	H	Mute Switch	COL3
25	P22	DL3	O	L	H	Dial Relay	COL3
26	P23	DS3	O	L	H	Spark Erase Relay	COL3
27	P24	SH3	O	L	L	Shunt Switch	COL3
28	P25	BR3	O	H	H	Oscillate Prevent Switch	COL3
29	P26	DIG3	O	L	H	Diagnosis Relay	COL3
30	P27	BELL3	I	---	*1	Bell/CPC 400 msec Input	COL3
31	P60	CODE1	I	---	*2	Card Classification Code 1	
32	P61	CODE2	I	---	*2	Card Classification Code 2	
34	P62	CODE3	I	---	*2	Card Classification Code 3	
35	P63	CODE4	I	---	*2	Card Classification Code 4	
36	P30	CF4	O	H	L	Conference Call Switch	COL4
37	P31	MT4	O	H	H	Mute Switch	COL4
38	P32	DL4	O	L	H	Dial Relay	COL4
39	P33	DS4	O	L	H	Spark Erase Relay	COL4
40	P34	SH4	O	L	L	Shunt Switch	COL4
41	P35	BR4	O	H	H	Oscillate Prevent Switch	COL4
44	P36	DIG4	O	L	H	Diagnosis Relay	COL4
45	P37	BELL4	I	---	*1	Bell/CPC 400 msec Input	COL4
46	P40	CPC01	I	---	L	CPC 6.5 msec Detection COL1	
47	P41	CPC2	I	---	L	CPC 6.5 msec Detection COL2	
48	P42	CPC3	I	---	L	CPC 6.5 msec Detection COL3	
49	P43	CPC4	I	---	L	CPC 6.5 msec Detection COL4	
50	P44	-----	---	---	---	Not Used	
51	P45	-----	---	---	---	Not Used	
52	P46	-----	---	---	---	Not Used	
53	P47	-----	---	---	---	Not Used	
55	P50	-----	---	---	---	Not Used	
56	P51	-----	---	---	---	Not Used	
57	P52	-----	---	---	---	Not Used	
58	P53	-----	---	---	---	Not Used	
59	P54	-----	---	---	---	Not Used	
60	P55	-----	---	---	---	Not Used	
61	P56	-----	---	---	---	Not Used	
64	P57	-----	---	---	---	Not Used	

*1: BELL Active...L CPC Active...H *2: Be based on classification code.


4 P00
5 P01
6 P02
7 P03
8 P04
9 P05
10 P06
11 P07
13 P10
14 P11
15 P12
16 P13
17 P14
18 P15
19 P16
20 P17
21 P20
24 P21
25 P22
26 P23
27 P24
28 P25
29 P26
30 P27
36 P30
37 P31
38 P32
39 P33
40 P34
41 P35
44 P36
45 P37
46 P40
47 P41
48 P42
49 P43
31 P60
32 P61
34 P62
35 P63
IC204
RD 66
WR 65
CS 67
D0 68
D1 69
D2 70
D3 71
D4 72
D5 74
D6 75
D7 76
RST 1
A0 77
A1 78
A2 79
A3 80
VDD 33
VDD 73
VSS 2
VSS 12
VSS 23
VSS 42
VSS 52
VSS 63

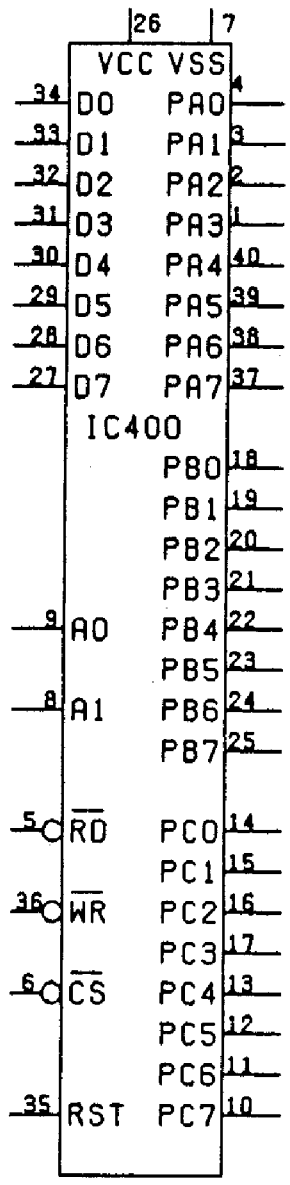
IC300

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
24	HI0	HOOK1	I	---	L	HOOK Detection Extension 1
25	HI1	HOOK2	I	---	L	HOOK Detection Extension 2
26	HI2	HOOK3	I	---	L	HOOK Detection Extension 3
27	HI3	HOOK4	I	---	L	HOOK Detection Extension 4
28	HI4	HOOK5	I	---	L	HOOK Detection Extension 5
29	HI5	HOOK6	I	---	L	HOOK Detection Extension 6
30	HI6	HOOK7	I	---	L	HOOK Detection Extension 7
31	HI7	HOOK8	I	---	L	HOOK Detection Extension 8
34	R00	RING1	O	L	H	Bell Relay Extension 1
35	R01	RING2	O	L	H	Bell Relay Extension 2
36	R02	RING3	O	L	H	Bell Relay Extension 3
37	R03	RING4	O	L	H	Bell Relay Extension 4
38	R04	RING5	O	L	H	Bell Relay Extension 5
39	R05	RING6	O	L	H	Bell Relay Extension 6
40	R06	RING7	O	L	H	Bell Relay Extension 7
41	R07	RING8	O	L	H	Bell Relay Extension 8

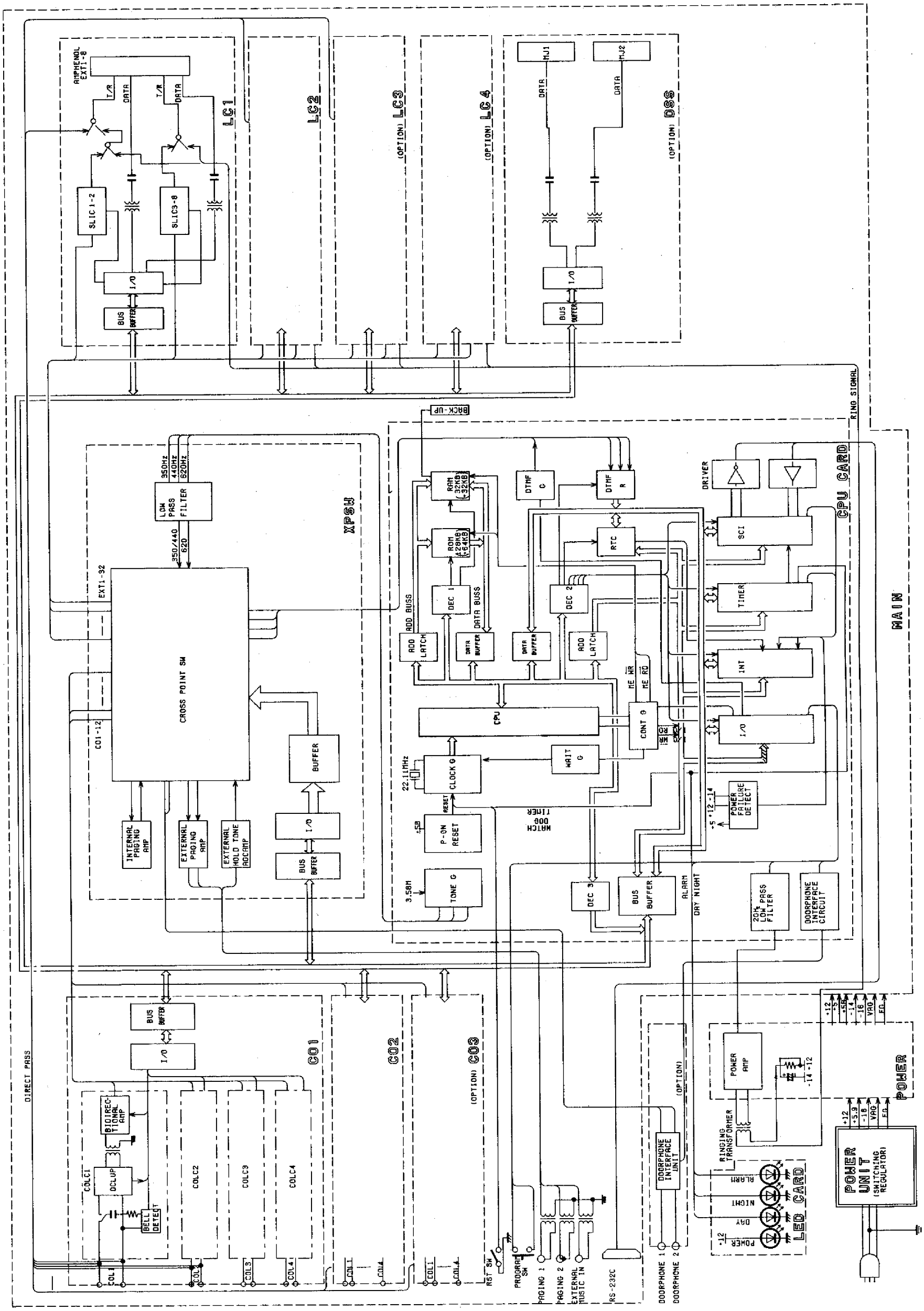


IC400

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
1	PA3	STB3	O	L	H	Cross Point STB Terminal 3
2	PA2	STB2	O	L	H	Cross Point STB Terminal 2
3	PA1	STB1	O	L	H	Cross Point STB Terminal 1
4	PA0	STB0	O	L	H	Cross Point STB Terminal 0
10	PC7	-----	---	---	---	Not Used
11	PC6	-----	---	---	---	Not Used
12	PC5	-----	---	---	---	Not Used
13	PC4	E	O	L	H	Cross Point Address Terminal E
14	PC0	A	O	L	H	Cross Point Address Terminal A
15	PC1	B	O	L	H	Cross Point Address Terminal B
16	PC2	C	O	L	H	Cross Point Address Terminal C
17	PC3	D	O	L	H	Cross Point Address Terminal D
18	PB0	XD0	O	L	H	Cross Point Data Terminal 0
19	PB1	XD1	O	L	H	Cross Point Data Terminal 1
20	PB2	XD2	O	L	H	Cross Point Data Terminal 2
21	PB3	XD3	O	L	H	Cross Point Data Terminal 3
22	PB4	XD4	O	L	H	Cross Point Data Terminal 4
23	PB5	XD5	O	L	H	Cross Point Data Terminal 5
24	PB6	XD6	O	L	H	Cross Point Data Terminal 6
25	PB7	XD7	O	L	H	Cross Point Data Terminal 7
37	PA7	STB7	O	L	H	Cross Point STB Terminal 7
38	PA6	STB6	O	L	H	Cross Point STB Terminal 6
39	PA5	STB5	O	L	H	Cross Point STB Terminal 5
40	PA4	STB4	O	L	H	Cross Point STB Terminal 4

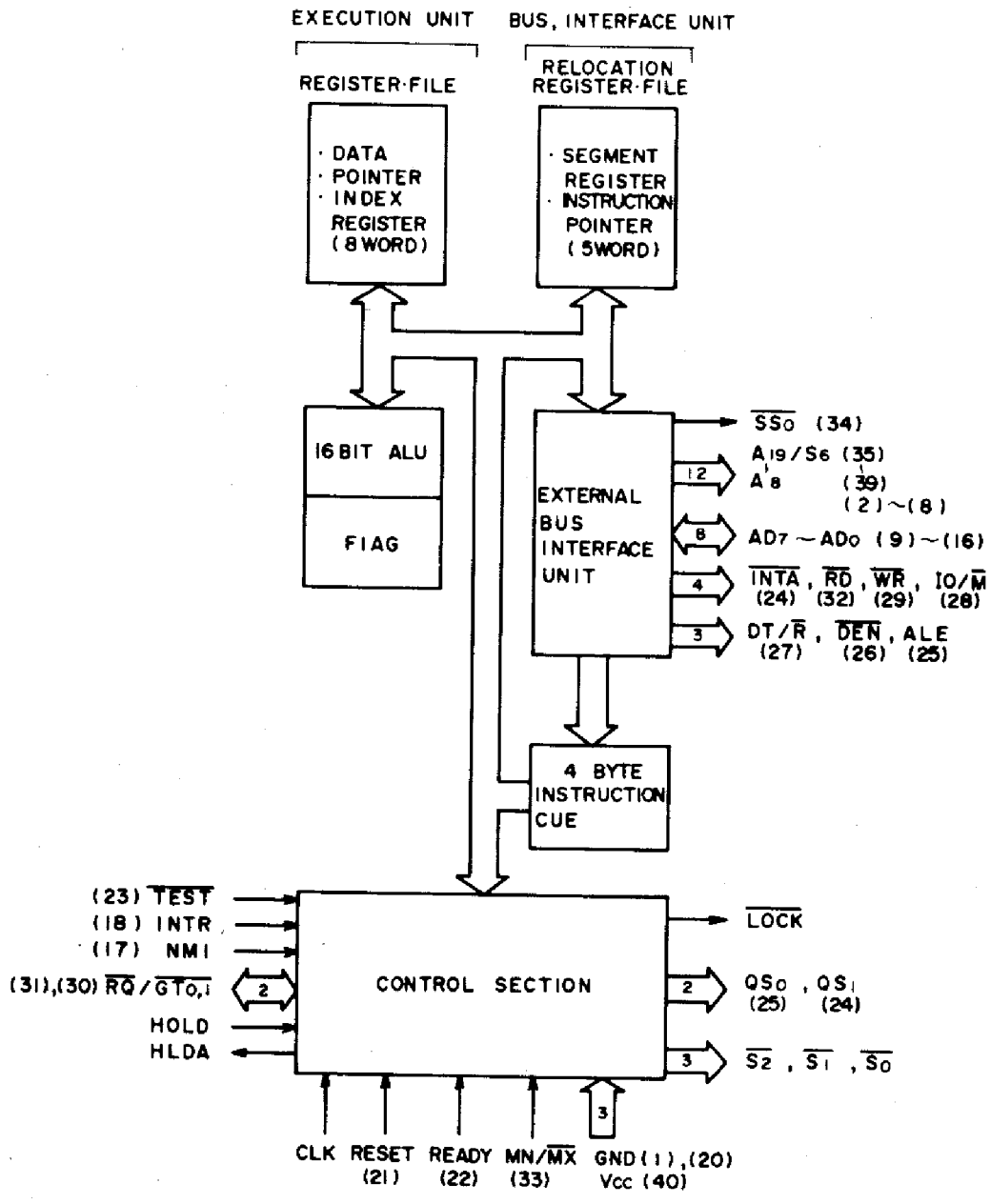


BLOCK DIAGRAM

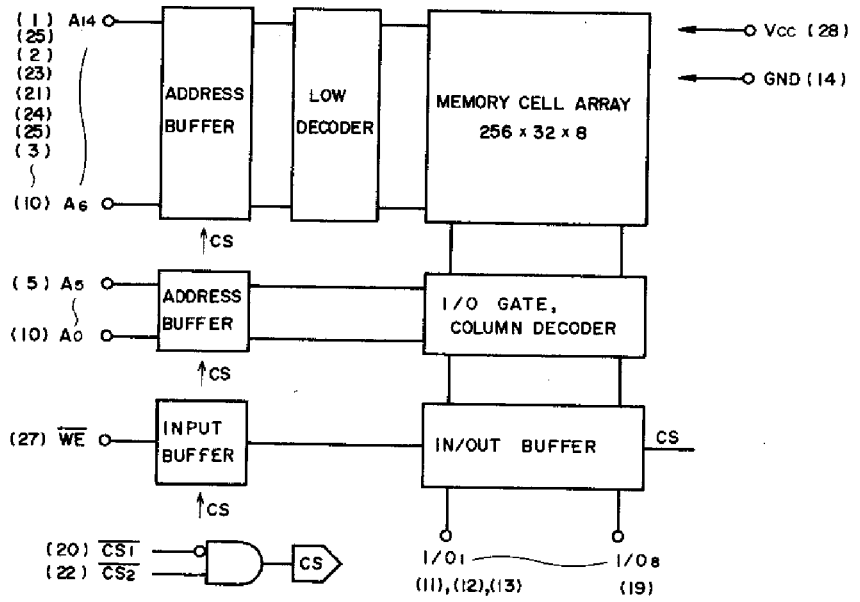


IC BLOCK DIAGRAM

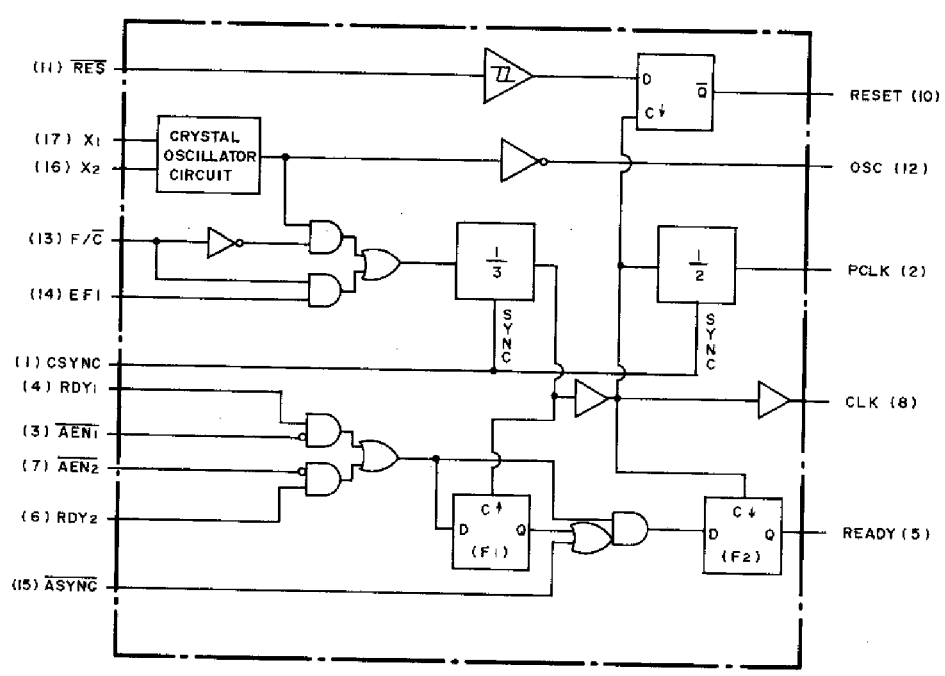
IC100 PQVIMSM80C88



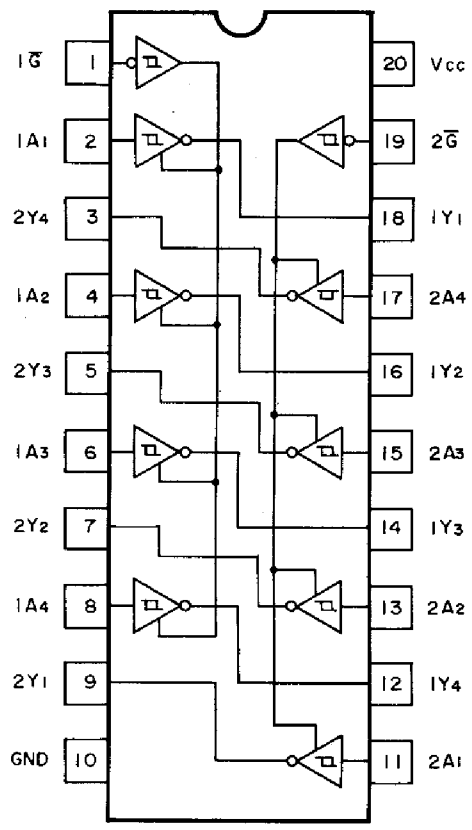
IC102 PQVIPD83257C



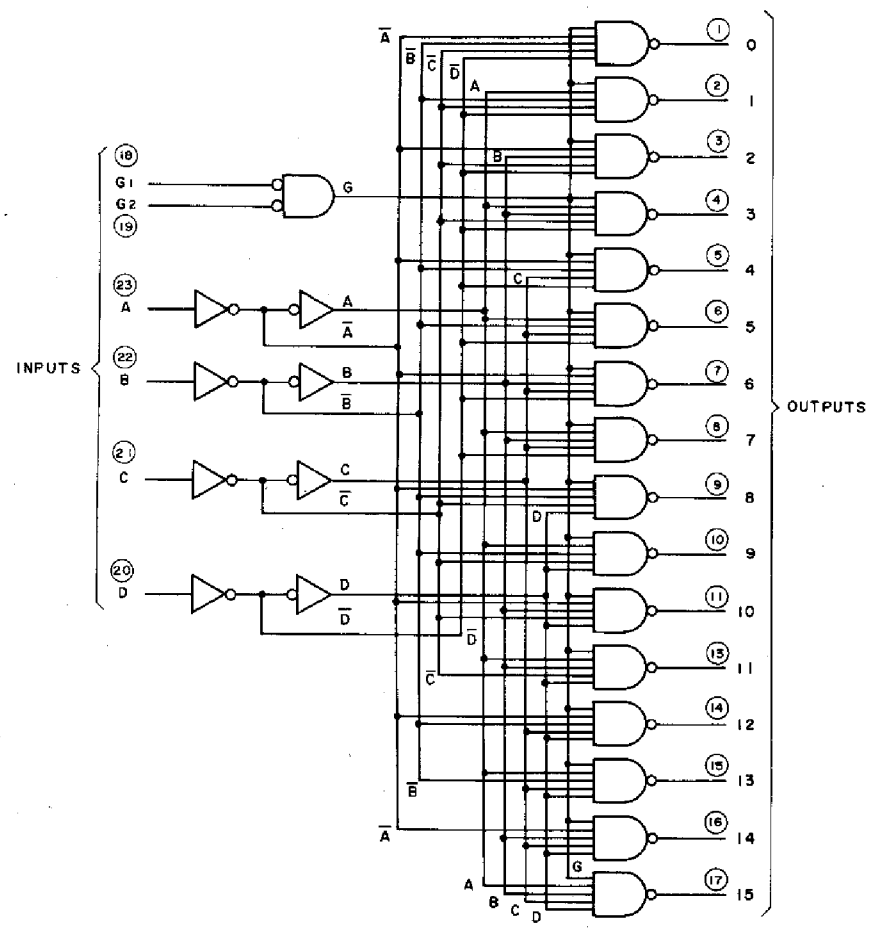
IC105 PQVIMS8C84A2



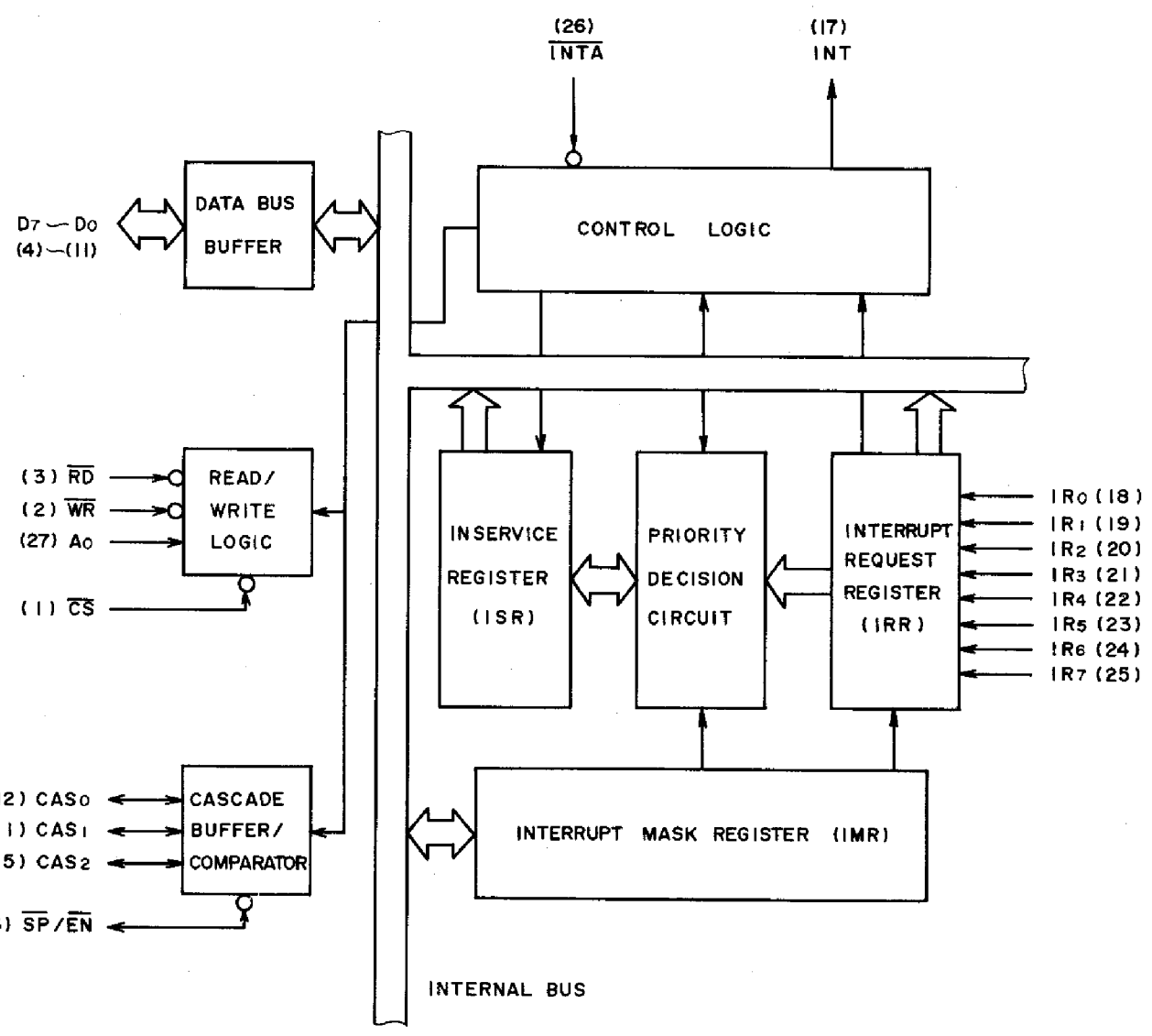
IC110 PQVIHD7L240P

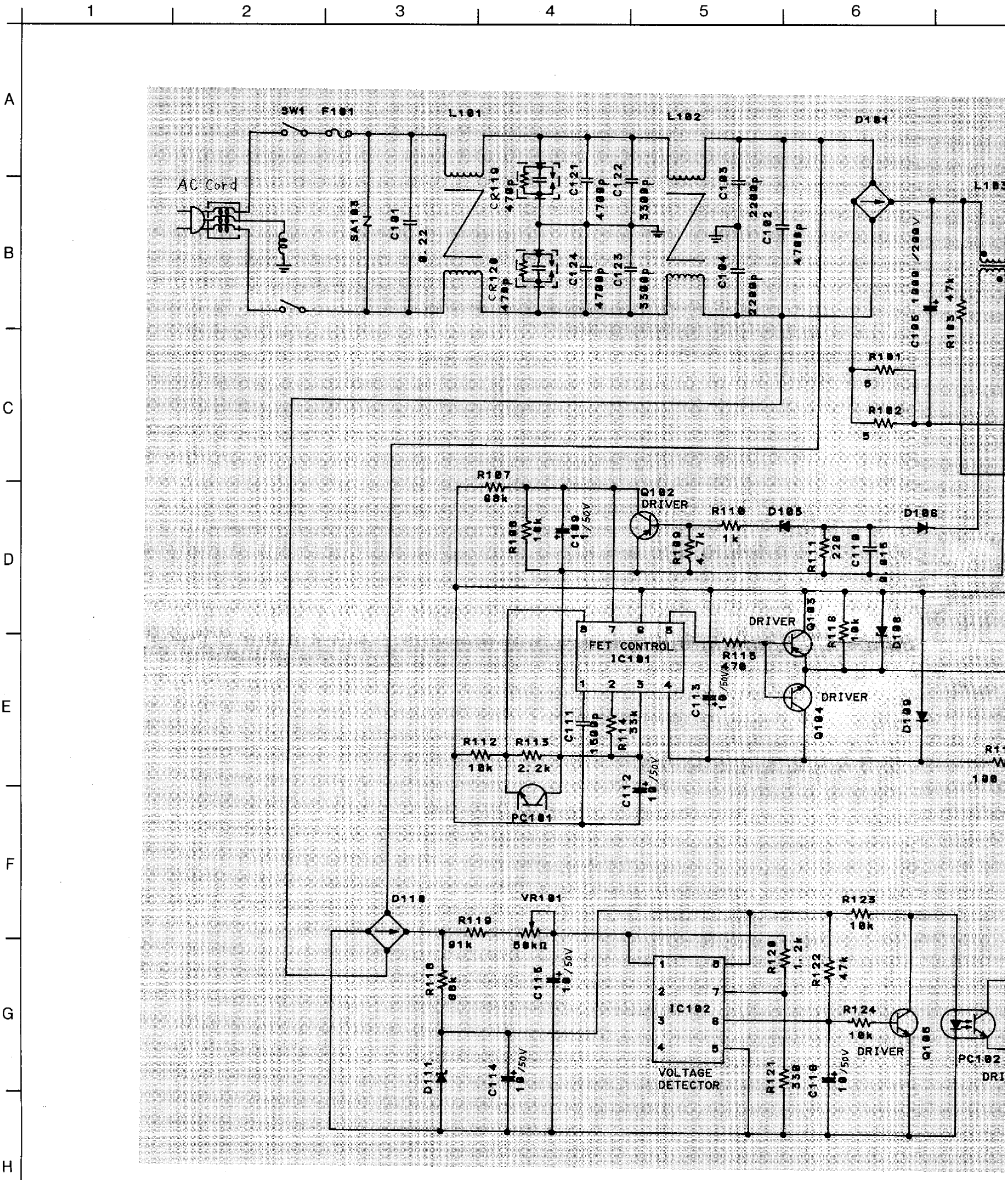


IC115 PQVIHD7L154P



IC117 PQVIMS8C59A2

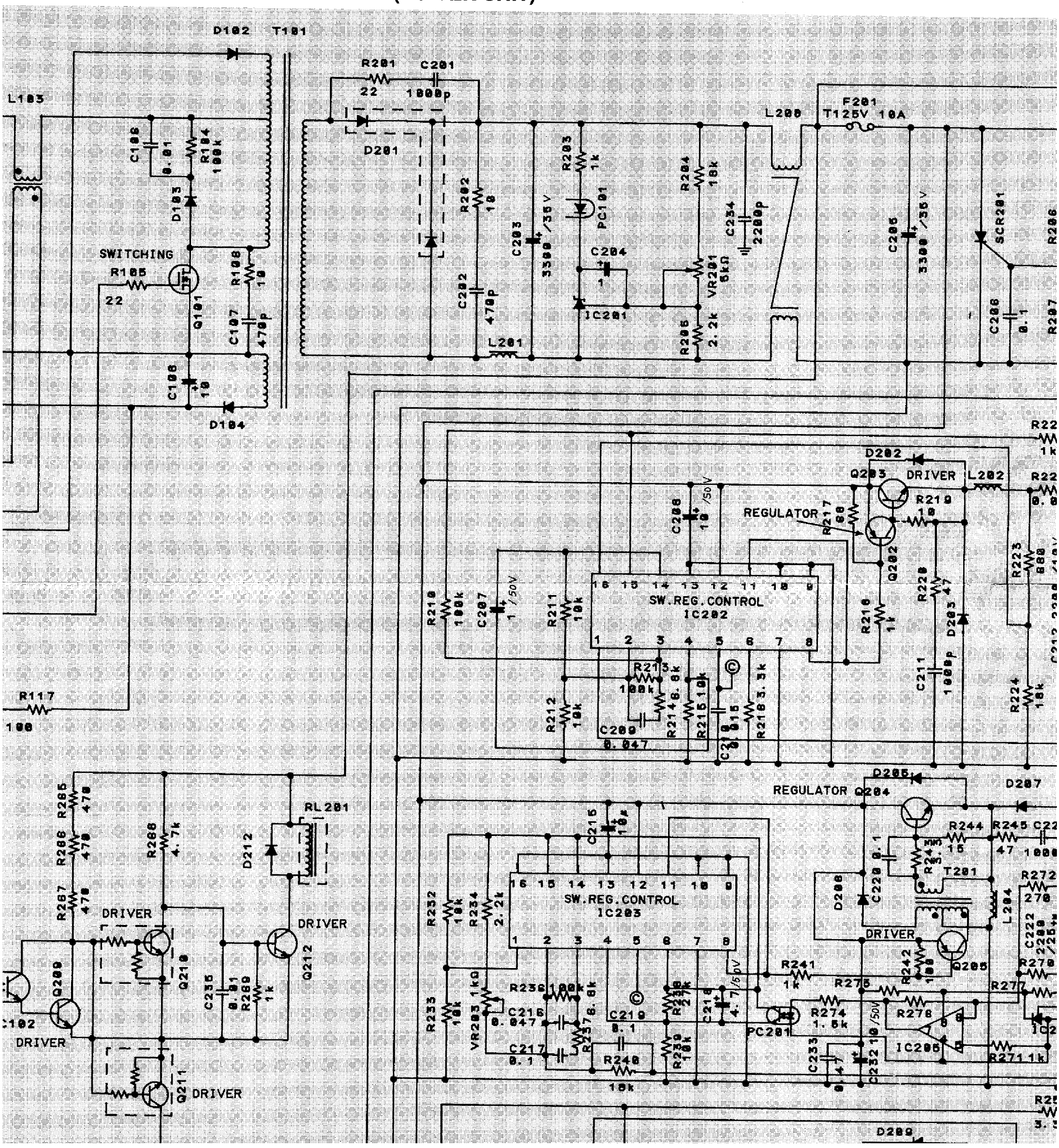


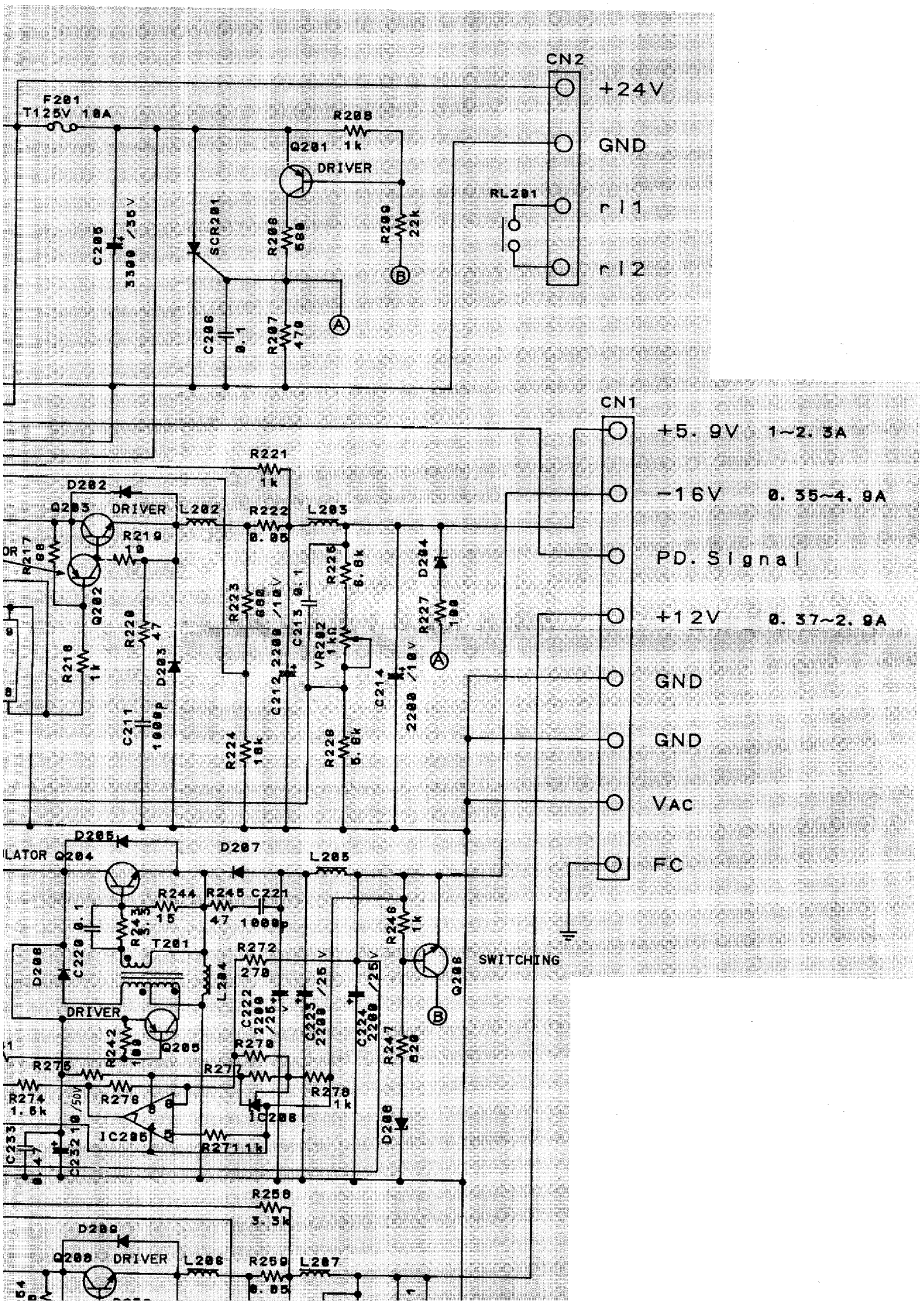

1
2
3
4
5
6
A
B
C
D
E
F
G
H
AC Cord
SW1
F101
SA103
C101
0.22
L101
L102
CR119
CR120
470P
C121
C122
C123
C124
4700P
3300P
C103
C104
2200P
C102
4700P
D101
L103
C105 1000 /200V
R103 47k
R101
5
R102
5
R107
68k
R108
10k
C109
1/50V
Q102
DRIVER
R110
1k
D105
D106
R109
4.7k
R111
220
C110
0.015
DRIVER
Q103
R118
10k
D108
FET CONTROL
IC101
8 7 6 5
1 2 3 4
R115
470
C113
10/50V
DRIVER
Q104
D109
C111
1500P
R114
33k
R112
10k
R113
2.2k
C112
10/50V
PC101
D110
VR101
R119
91k
50kΩ
C115
10/50V
R123
10k
R120
1.2k
R122
47k
R116
68k
IC102
VOLTAGE
DETECTOR
R124
10k
DRIVER
Q105
PC102
D111
C114
10/50V
R121
330
C116
10/50V

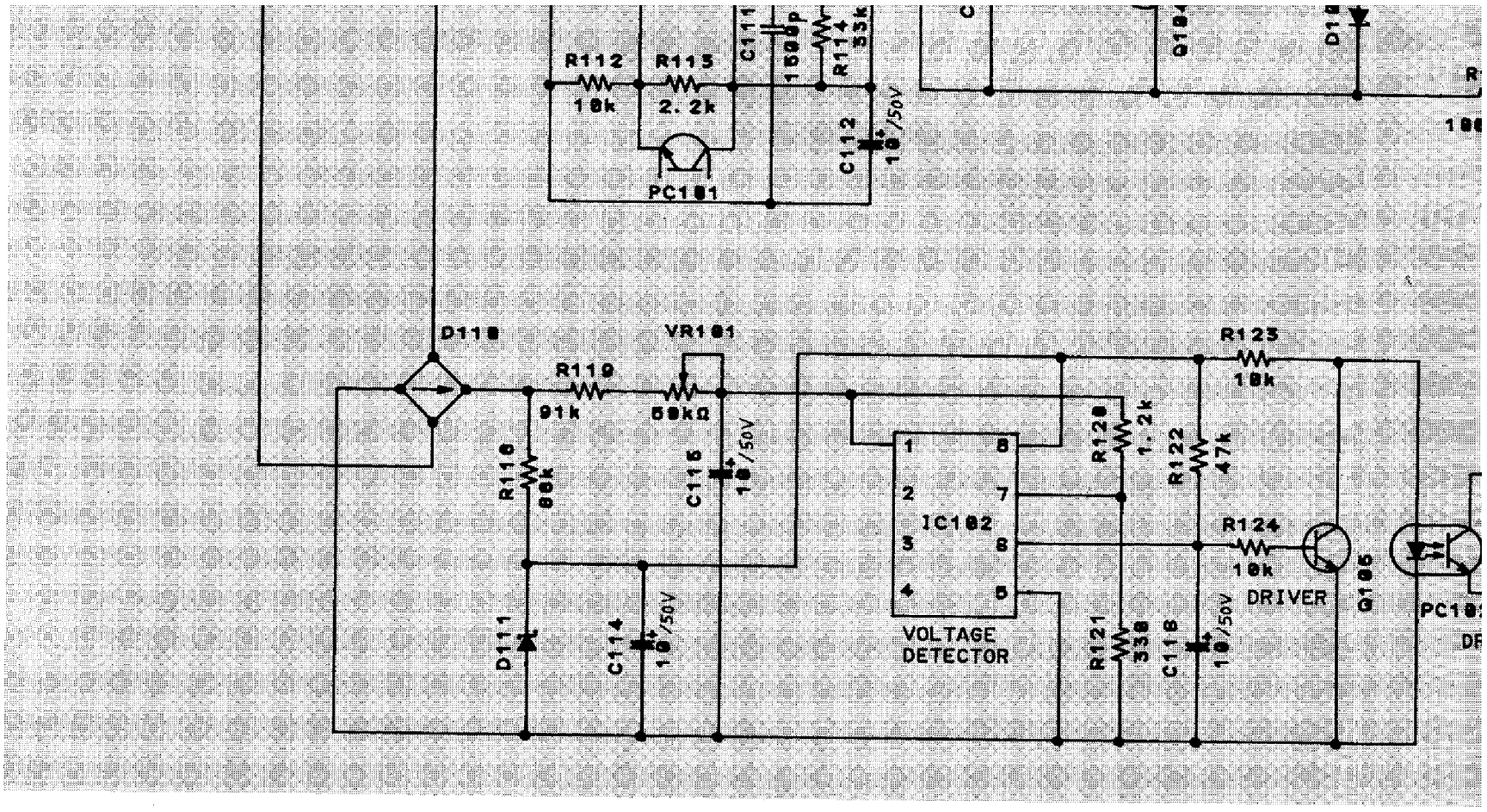
SCHEMATIC DIAGRAM

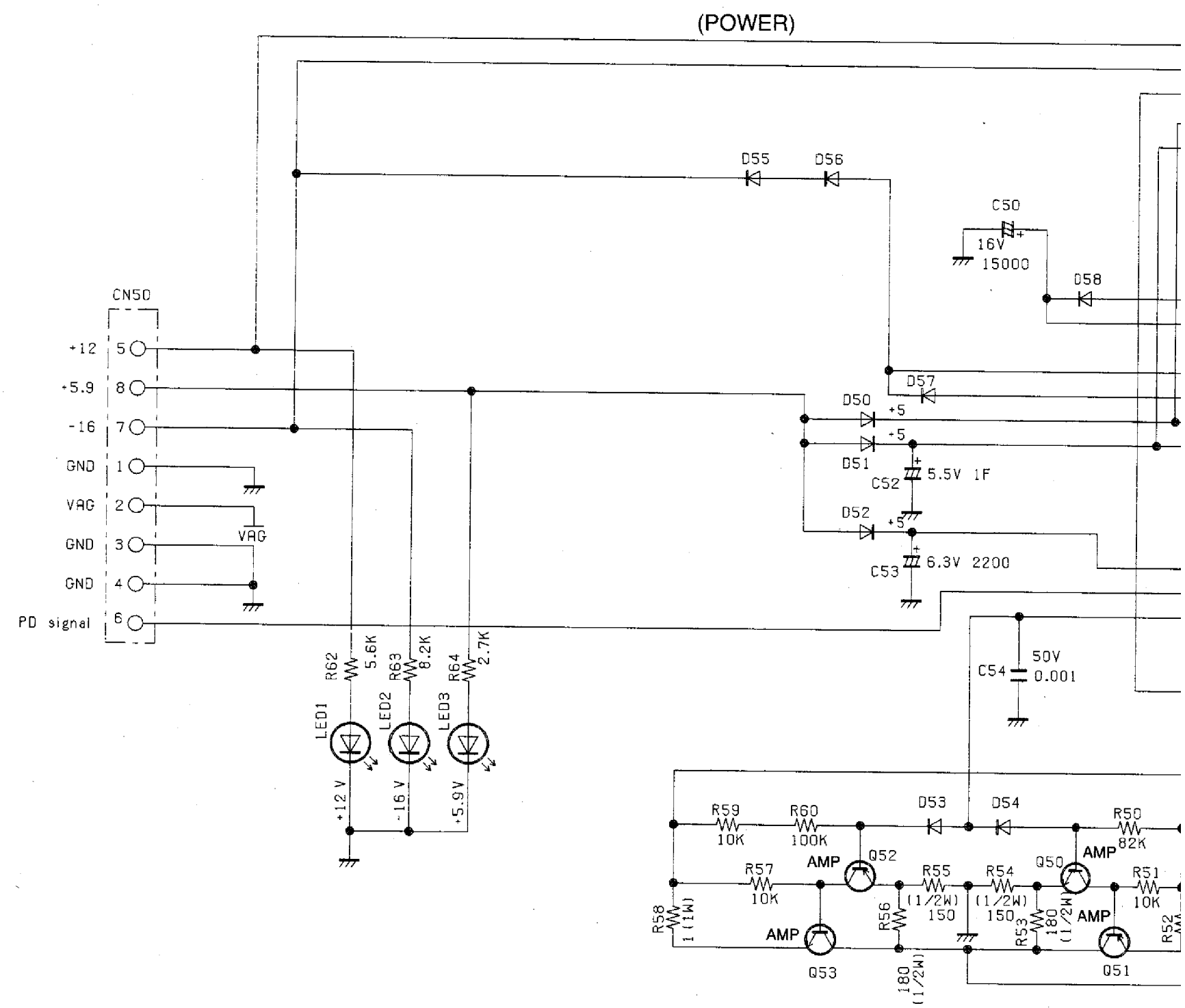
7 | 8 | 9 | 10 | 11 | 12 | 13

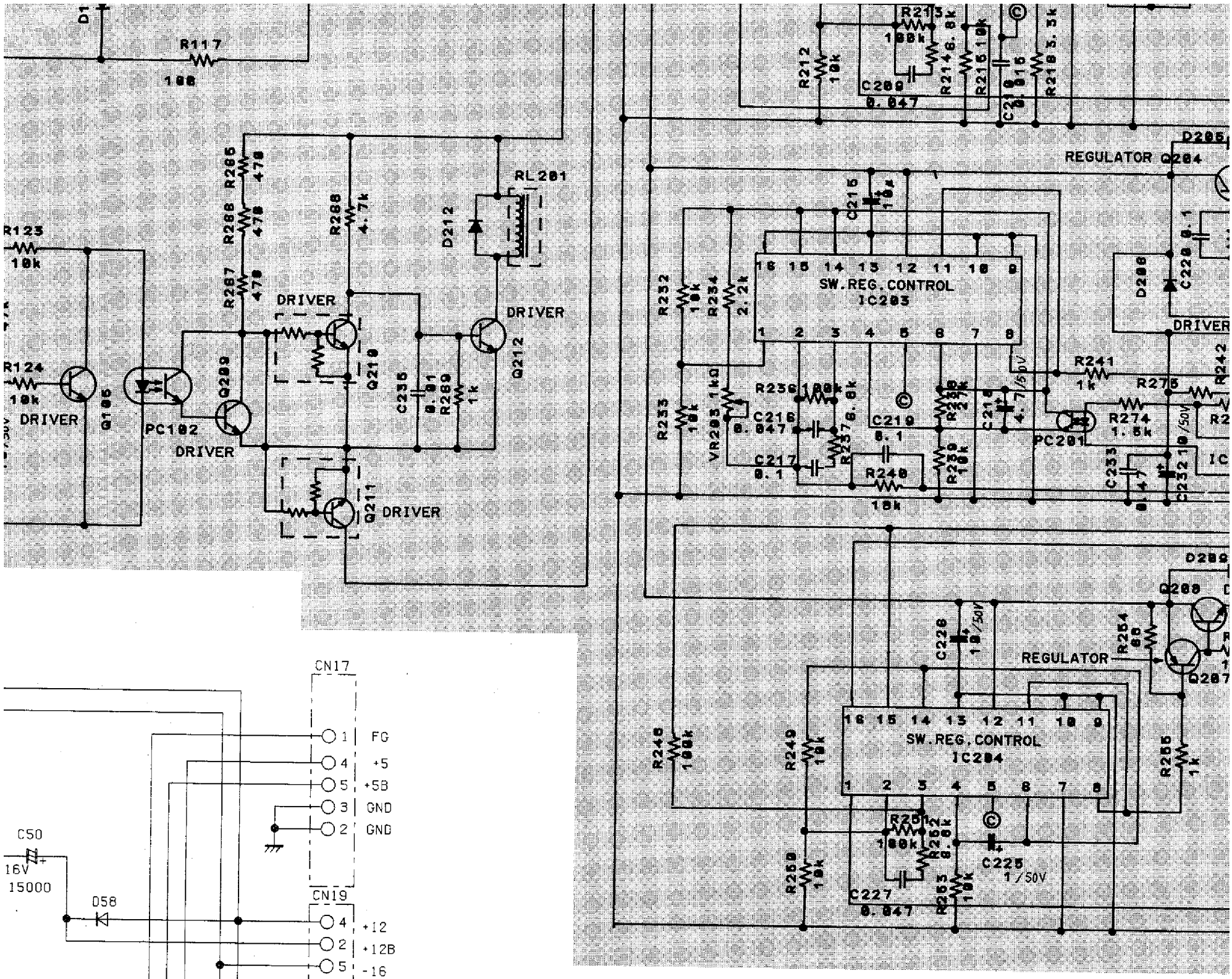
(POWER UNIT)

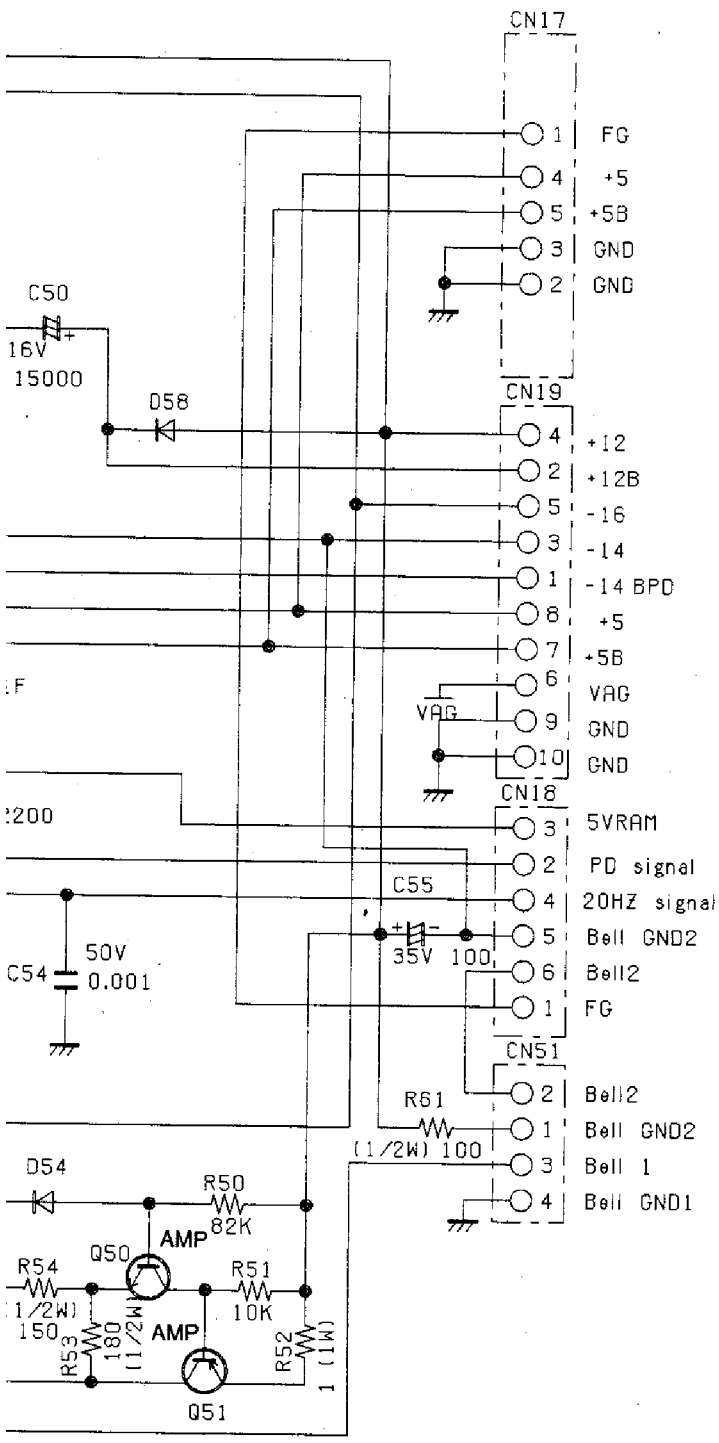


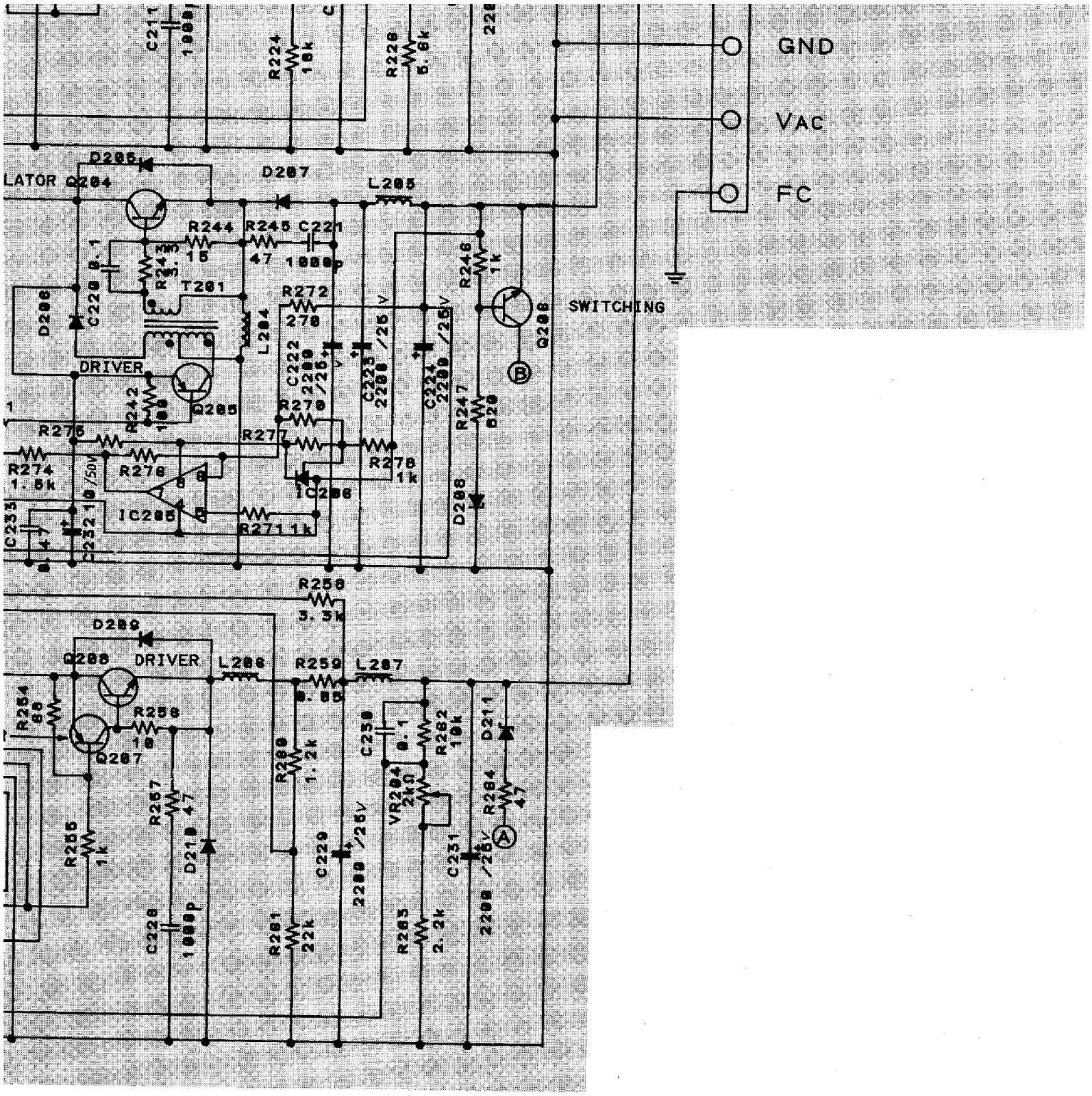

CN2
+24V
GND
r l 1
r l 2
F201
T125V 10A
R208
Q201 1k
DRIVER
RL201
C205
3300 /35V
SCR201
R206
680
R209
22k
C206
0.1
R207
470
CN1
+5. 9V 1~2. 3A
−16V 0. 35~4. 9A
PD. Signal
+12V 0. 37~2. 9A
GND
GND
VAC
FC
R221
1k
D202
Q203
DRIVER
L202
R222
0. 05
L203
R219
10
R217
68
Q202
R223
680 /10V
C213
0.1
R226
6. 8k
D204
R227
100
R220
47
R216
1k
D203
C212
2200 /10V
VR202
1kΩ
C214
2200 /10V
C211
1000P
R224
18k
R228
5. 8k
D205
D207
L205
ILATOR Q204
R244
15
R245
47
C221
1000P
C220
0.1
R243
5.
T201
R272
270
R246
1k
D208
C222
2200 /25V
C223
2200 /25V
C224
2200 /25V
SWITCHING
Q208
DRIVER
Q205
R242
R247
820
R275
R277
R274
1. 5k
R278
R279
R278
1k
IC206
IC205
C233
0. 47
C232
10 /50V
R271
1k
D206
R258
3. 3k
D209
Q209
DRIVER
L206
R259
0. 05
L207


R112
10k
R115
2.2k
C111
1500p
R114
33k
C112
10/50V
PC101
D110
VR101
R119
91k
50kΩ
R116
68k
C116
10/50V
D111
C114
10/50V
IC102
VOLTAGE
DETECTOR
R123
10k
R120
1.2k
R122
47k
R124
10k
DRIVER
Q106
R121
330
C118
10/50V


(POWER)
CN50
+12
+5.9
-16
GND
VAG
GND
GND
PD signal
VAG
R62
5.6K
R63
8.2K
R64
2.7K
LED1
LED2
LED3
+12 V
-16 V
+5.9V
D55
D56
C50
16V
15000
D58
D57
D50
+5
D51
+5
C52
5.5V 1F
D52
+5
C53
6.3V 2200
C54
50V
0.001
R59
10K
R60
100K
D53
D54
R50
82K
AMP
Q52
R57
10K
R55
(1/2W)
150
R54
(1/2W)
150
Q50
AMP
R51
10K
R58
1 (1W)
AMP
Q53
R56
180
(1/2W)
R53
180
(1/2W)
AMP
Q51
R52


D1
R117
100
R123
10k
R124
10k
DRIVER
Q199
PC102
DRIVER
R287
470
R288
470
R285
470
R288
4.7k
DRIVER
Q210
C235
0.01
R289
1k
D212
RL201
DRIVER
Q212
Q211 DRIVER
R212
10k
R213
100k
C209
0.047
R214
6.8k
R215
10k
C216
0.047
R218
5.3k
D205
REGULATOR Q204
C215
10u
SW.REG.CONTROL
IC203
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
R232
10k
R234
2.2k
R233
10k
VR203 1kΩ
R236
100k
R237
6.8k
C216
0.047
C217
0.1
C219
0.1
R240
10k
R241
1k
R275
R274
1.5k
PC201
C218
4.7/6.3V
C233
0.47
C232
10/50V
D206
C228 0.1
DRIVER
R242
IC
D209
Q209
C226
10/50V
R254
68
REGULATOR
Q207
SW.REG.CONTROL
IC204
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
R248
100k
R249
10k
R255
1k
R251
100k
R252
6.8k
C225
1/50V
R253
10k
C227
0.047
R259
10k

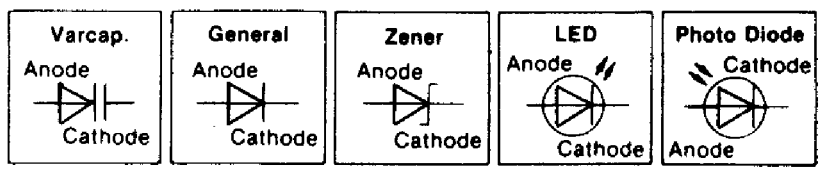

CN17
1 FG
4 +5
5 +5B
3 GND
2 GND
C50
16V
15000
D58
CN19
4 +12
2 +12B
5 -16
3 -14
1 -14 BPD
8 +5
7 +5B
6 VAG
9 GND
10 GND
VAG
CN18
3 5VRAM
2 PD signal
4 20HZ signal
5 Bell GND2
6 Bell2
1 FG
C55
35V 100
50V
C54 0.001
CN51
2 Bell2
1 Bell GND2
3 Bell 1
4 Bell GND1
R61
(1/2W) 100
D54
R50
82K
AMP
Q50
R54
(1/2W)
150
R53
180
(1/2W)
AMP
R51
10K
R52
1 (1W)
Q51

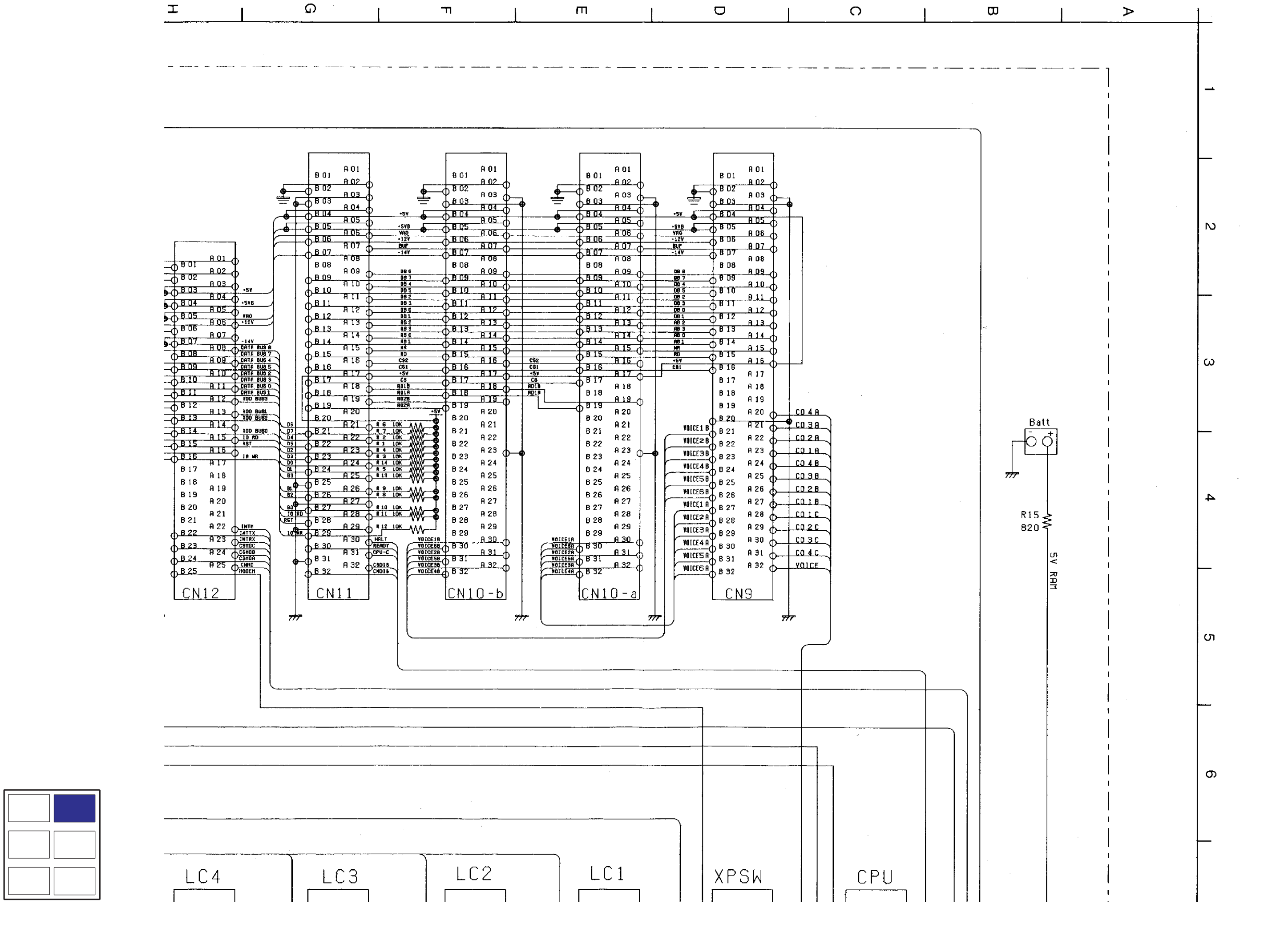


Note:

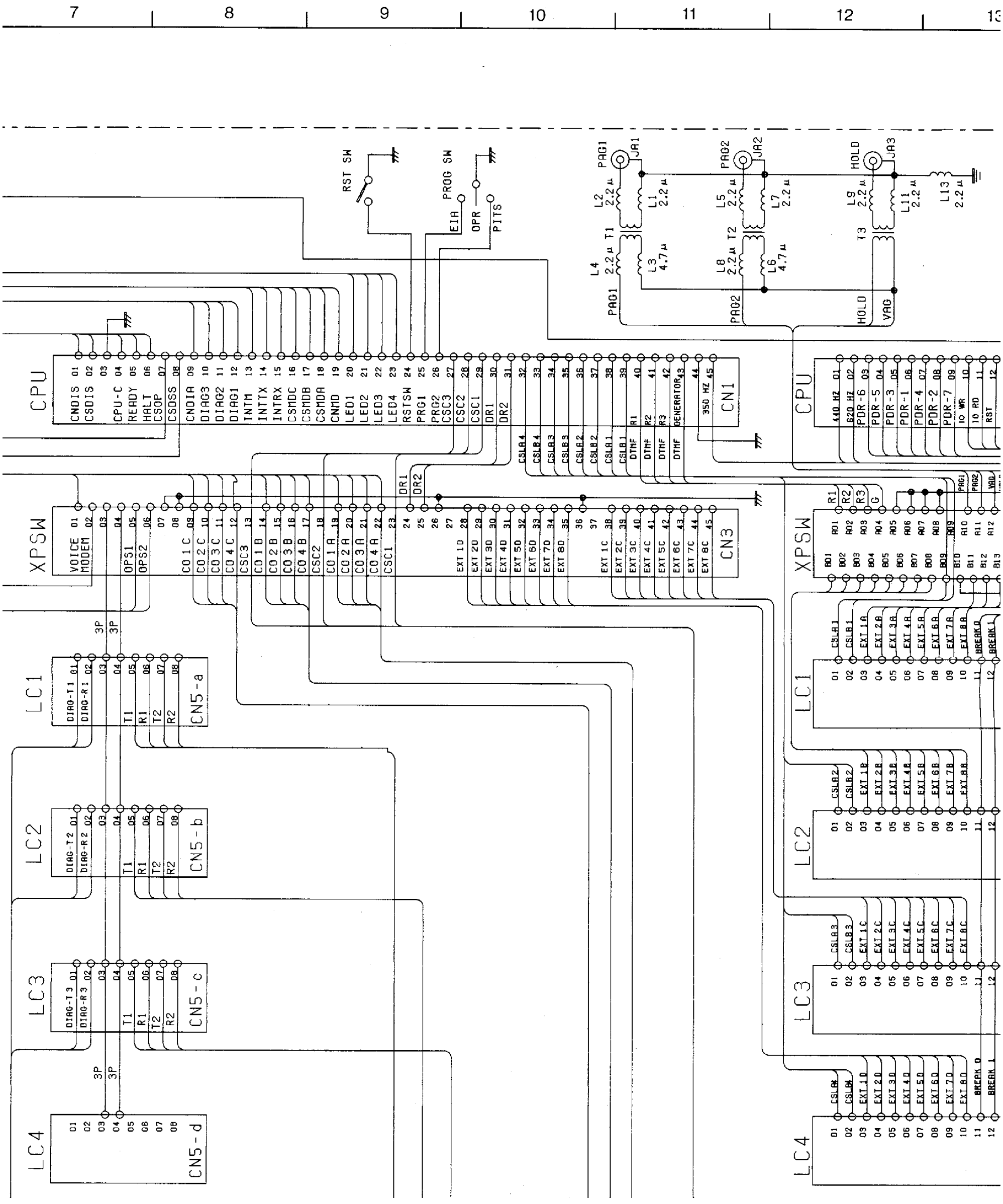
1. DC voltage measurements are taken with electronic voltmeter from negative terminal of battery.
2. This schematic diagram may be modified at any time with the development of new technology.
3. Important safety notice

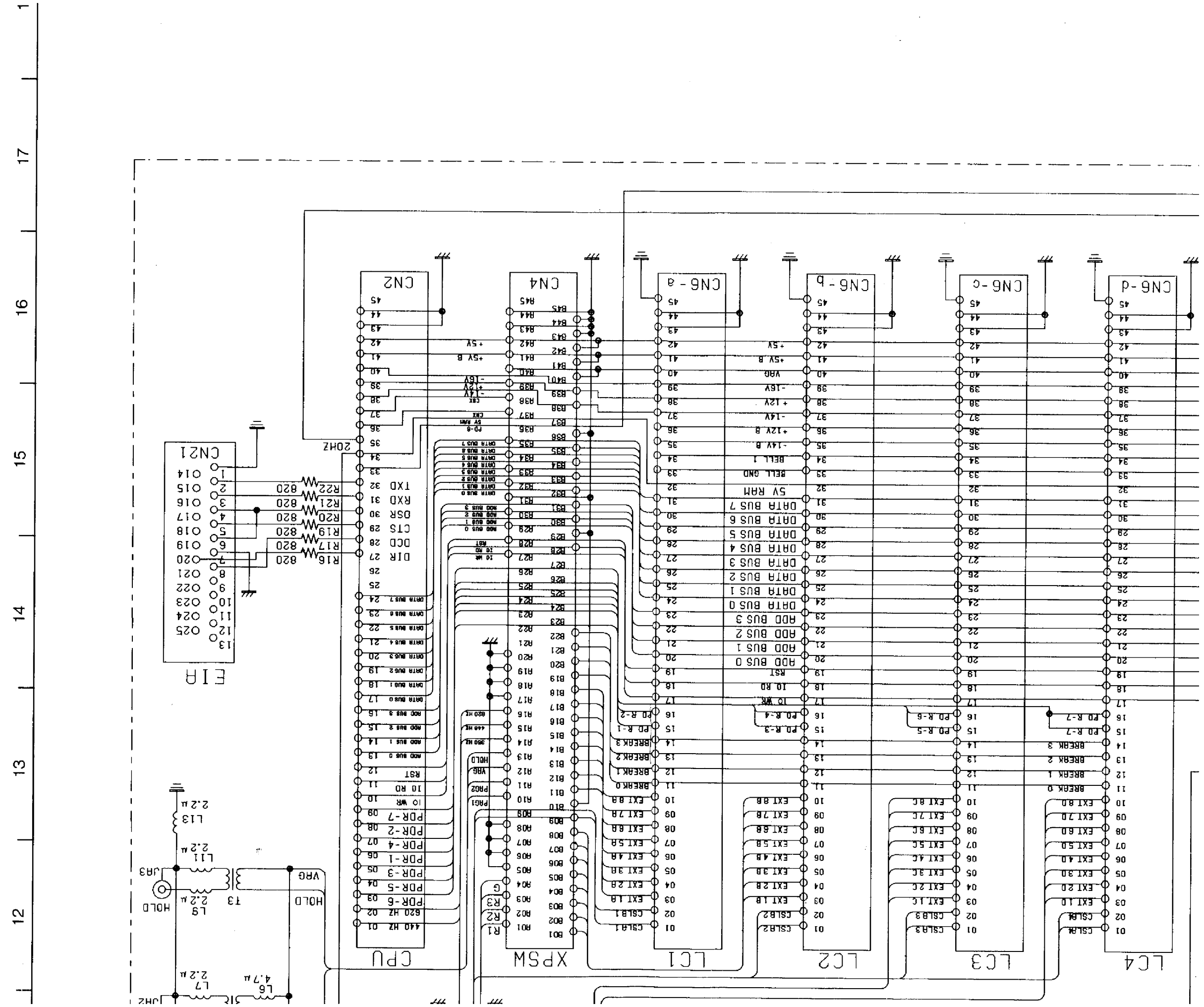
   The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
   When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

4. 


CN12
CN11
CN10-b
CN10-a
CN9
LC4
LC3
LC2
LC1
XPSW
CPU
Batt
R15
820
5V RAM

SCHEMATIC DIAGRAM (MAIN)




CN2
CN4
CN6 - a
CN6 - b
CN6 - c
CN6 - d
CN21
EIA
CPU
XPSW
LC1
LC2
LC3
LC4
20HZ
TXD
RXD
DSR
CTS
DCD
DIR
RST
IO RD
IO WR
+5V
+5V B
-16V
+12V
-14V
+12V B
-14V B
VBG
-12V
BELL 1
BELL GND
5V RAM
DATA BUS 7
DATA BUS 6
DATA BUS 5
DATA BUS 4
DATA BUS 3
DATA BUS 2
DATA BUS 1
DATA BUS 0
ADD BUS 3
ADD BUS 2
ADD BUS 1
ADD BUS 0
RST
IO RD
IO WR
BREAK 3
BREAK 2
BREAK 1
BREAK 0
EXT 8B
EXT 7B
EXT 6B
EXT 5B
EXT 4B
EXT 3B
EXT 2B
EXT 1B
CSLB1
CSLB2
CSLB3
HOLD
R22 820
R21 820
R20 820
R19 820
R17 820
R16 820
L13 2.2μ
L11 2.2μ
L9 2.2μ
L7 2.2μ
L6 4.7μ
T3
JH3
JH2

M L K J I H G F

CN16

ALARM 1 LED4
NIGHT 2 LED3
DAY 3 LED2
POWER 4 LED1
+12V 5 +12V

CN17

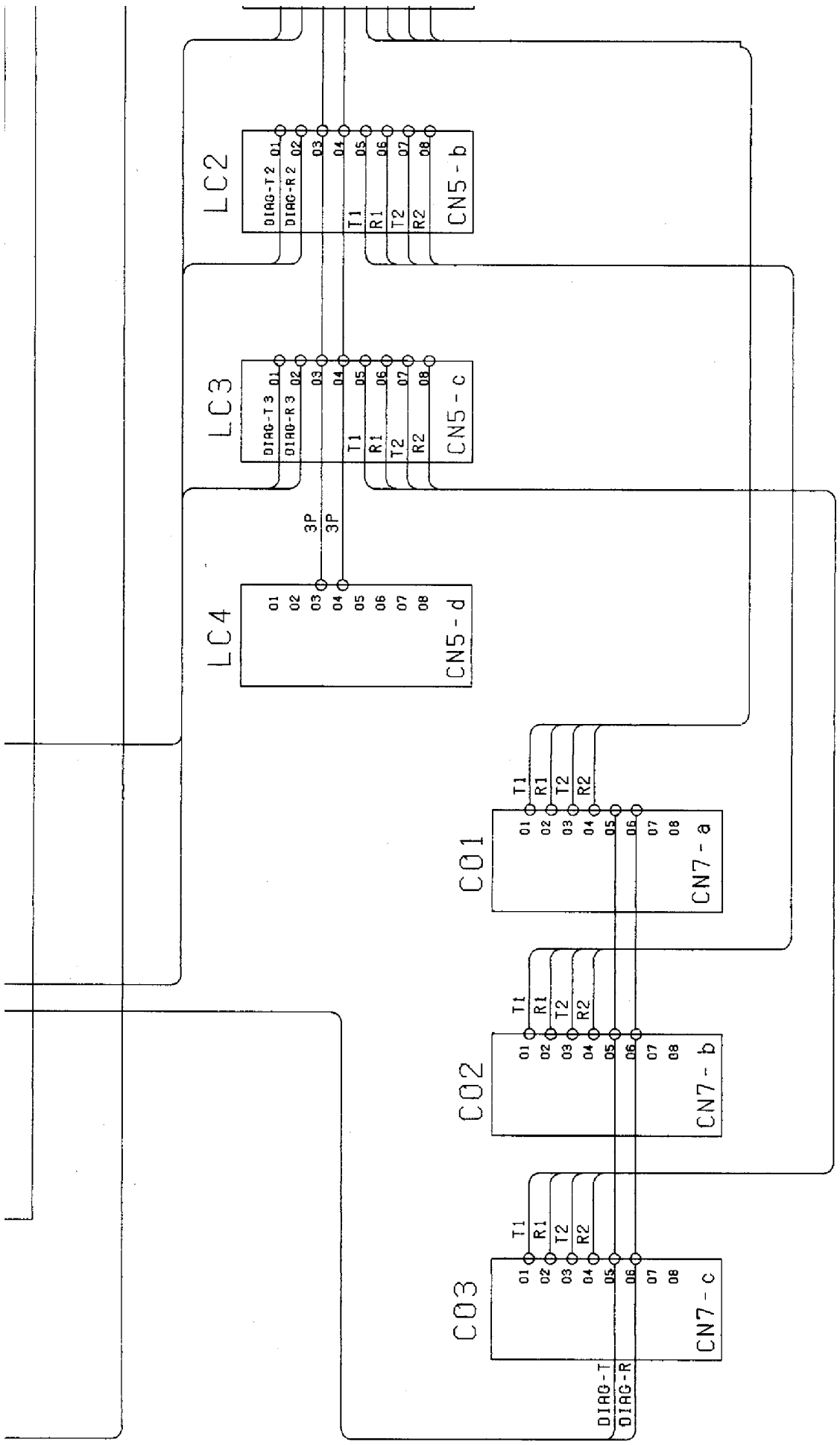
1
2
3
4 +5V
5 +5VB

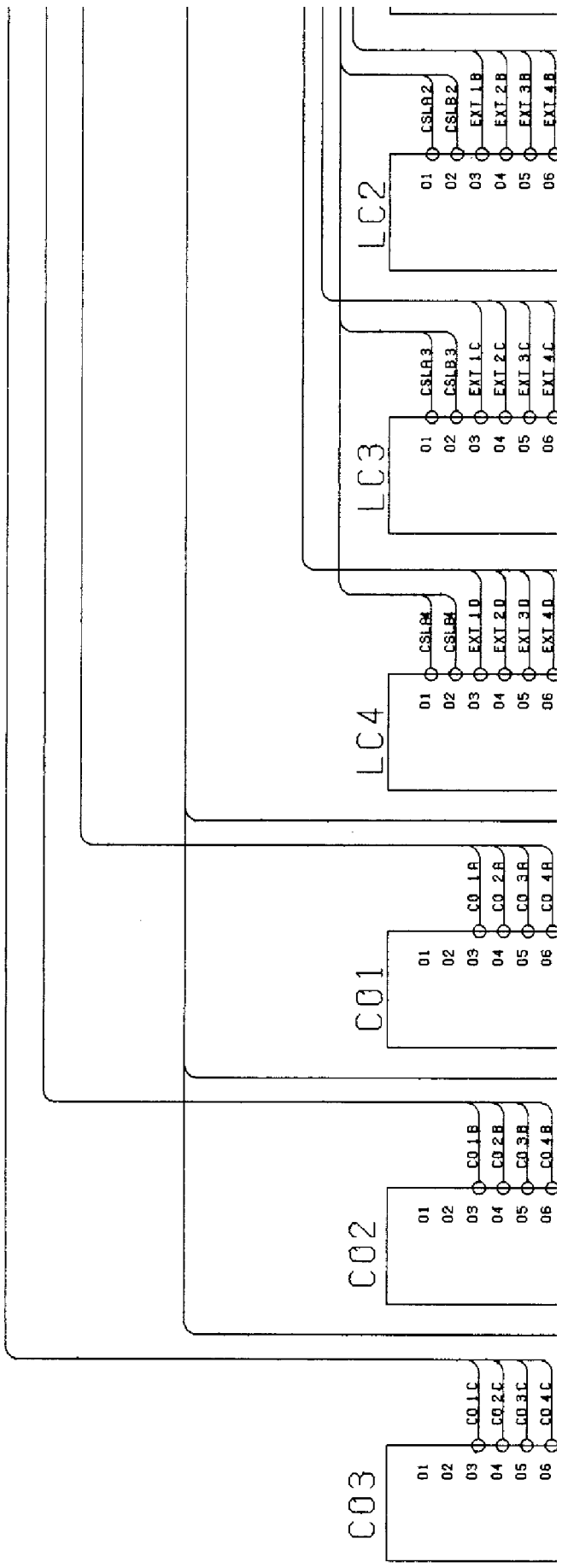
DSS

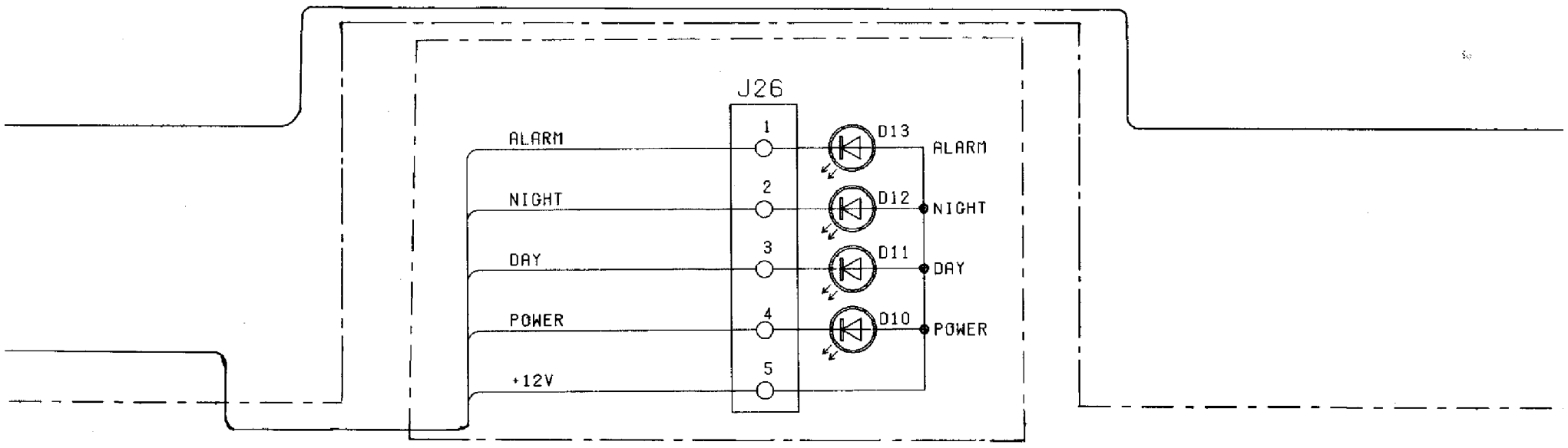
20HZ
+5V
+5VB
VAG
+12V
16V
-14V
DATA BUS 0
DATA BUS 1
DATA BUS 2
DATA BUS 3
DATA BUS 4
DATA BUS 5
DATA BUS 7
DATA BUS 8
ADD BUS3
ADD BUS2
ADD BUS1
ADD BUS0
IO RD
RST
IO WR
CSOP
CSDSS
DIAG-R
DIAG-T
DIAG-R3
DIAG-T3
DIAG-R2
DIAG-T2
CNDIA
DIAG3
DIAG2
DIAG1
DIAG-T1
DIAG-R1
OPS-1
OPS-2
-14V
INTH
INTTX
INTRX
CSMOC
CSMDB
CSMDA
CMMD
MODEM
HALT
READY
CPU-C
CSDIS
CMDIS
VOICE1B
VOICE6B
VOICE2B
VOICE5B
VOICE3B
VOICE4B
VOICE1A
VOICE6A
VOICE2A
VOICE5A
VOICE3A
VOICE4A
CS2
CS1
CS
AD1B
AD1A
AD2B
AD2A
WR
RD
R 6 10K
R 7 10K
R 2 10K
R 1 10K
R 4 10K
R 14 10K
R 5 10K
R 13 10K
R 9 10K
R 8 10K
R 10 10K
R 11 10K
R 12 10K

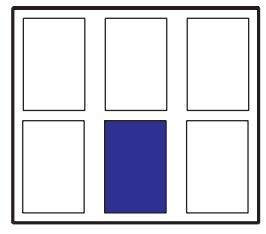
CN15
CN14
CN13
CN12
CN11
CN10-b

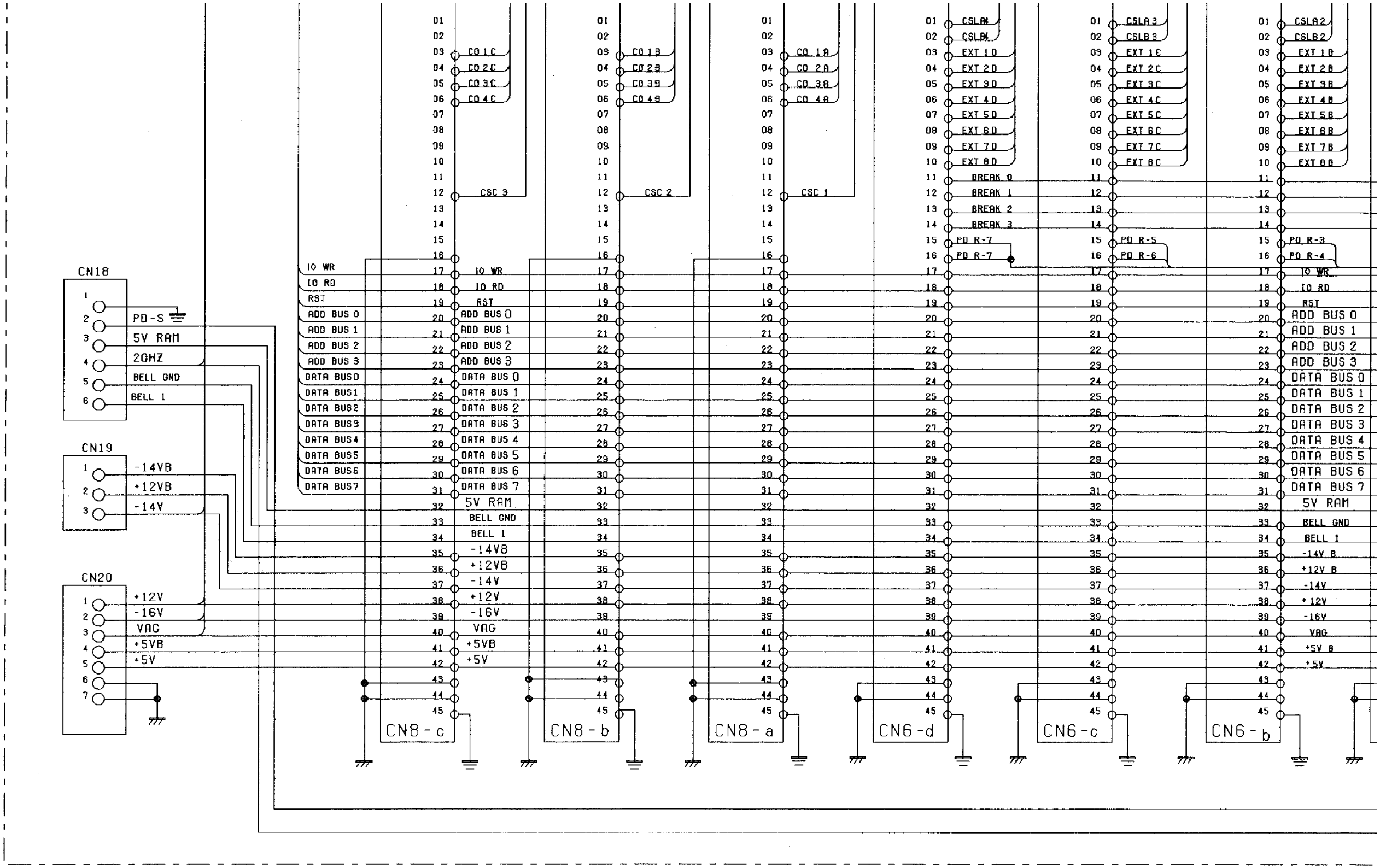
LC4
LC3
LC2
DIAG-T 3
DIAG-T 2

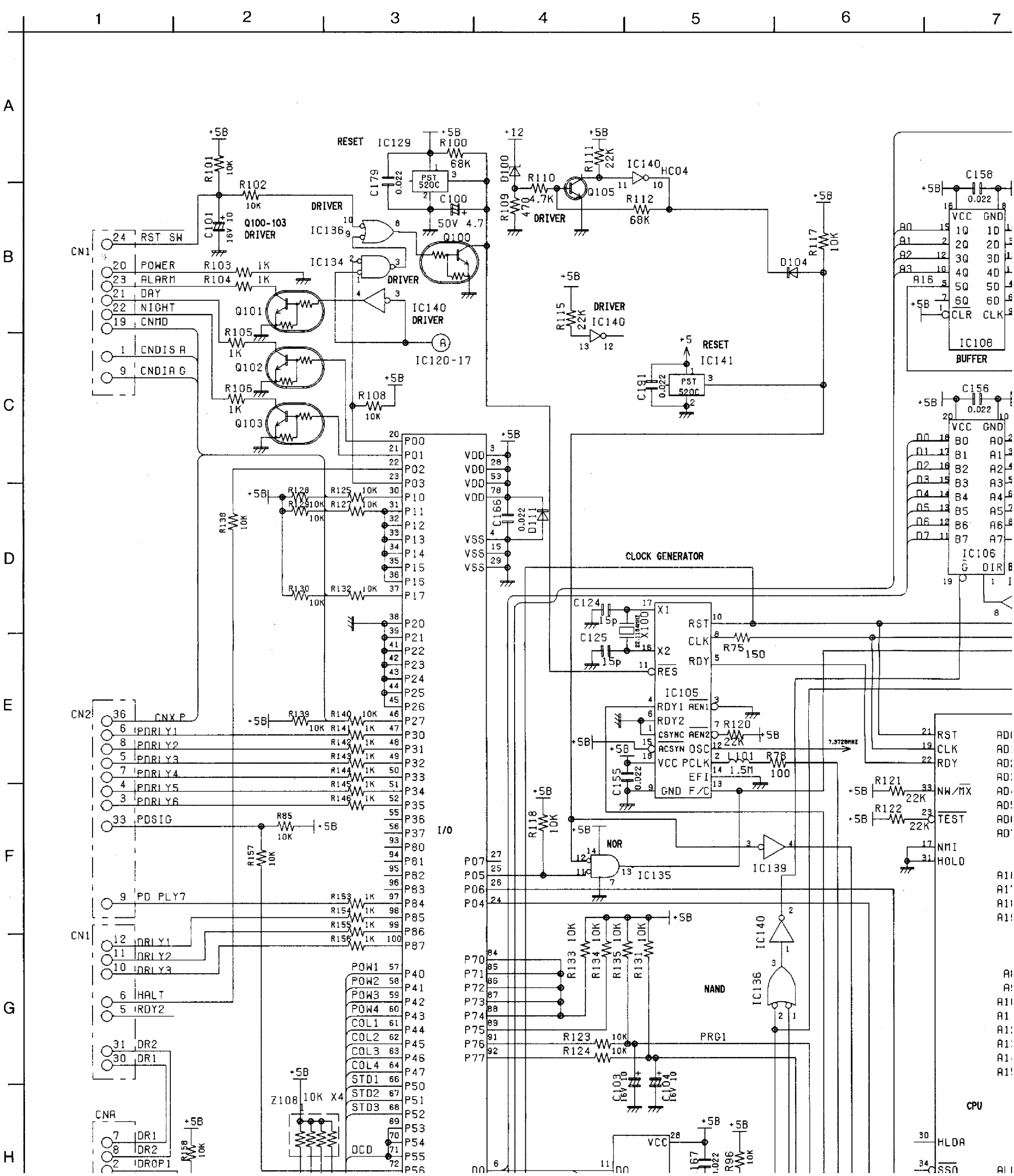

LC2
DIAG-T2
DIAG-R2
T1
R1
T2
R2
CN5 - b
LC3
DIAG-T3
DIAG-R3
CN5 - c
3P
3P
LC4
CN5 - d
C01
CN7 - a
C02
CN7 - b
C03
CN7 - c
DIAG-T
DIAG-R


LC2
LC3
LC4
C01
C02
C03

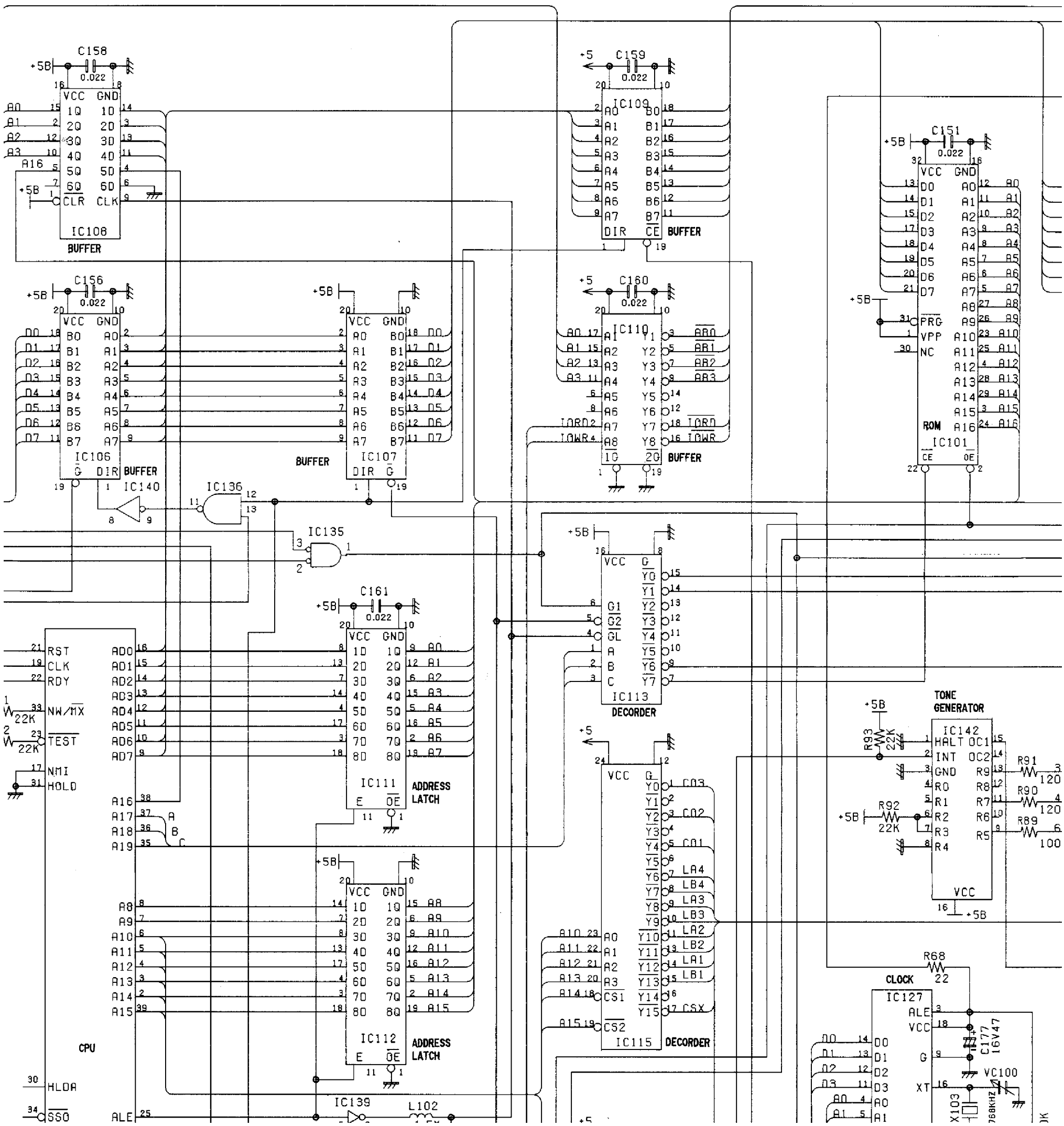

J26
ALARM
NIGHT
DAY
POWER
+12V
D13
D12
D11
D10
ALARM
NIGHT
DAY
POWER

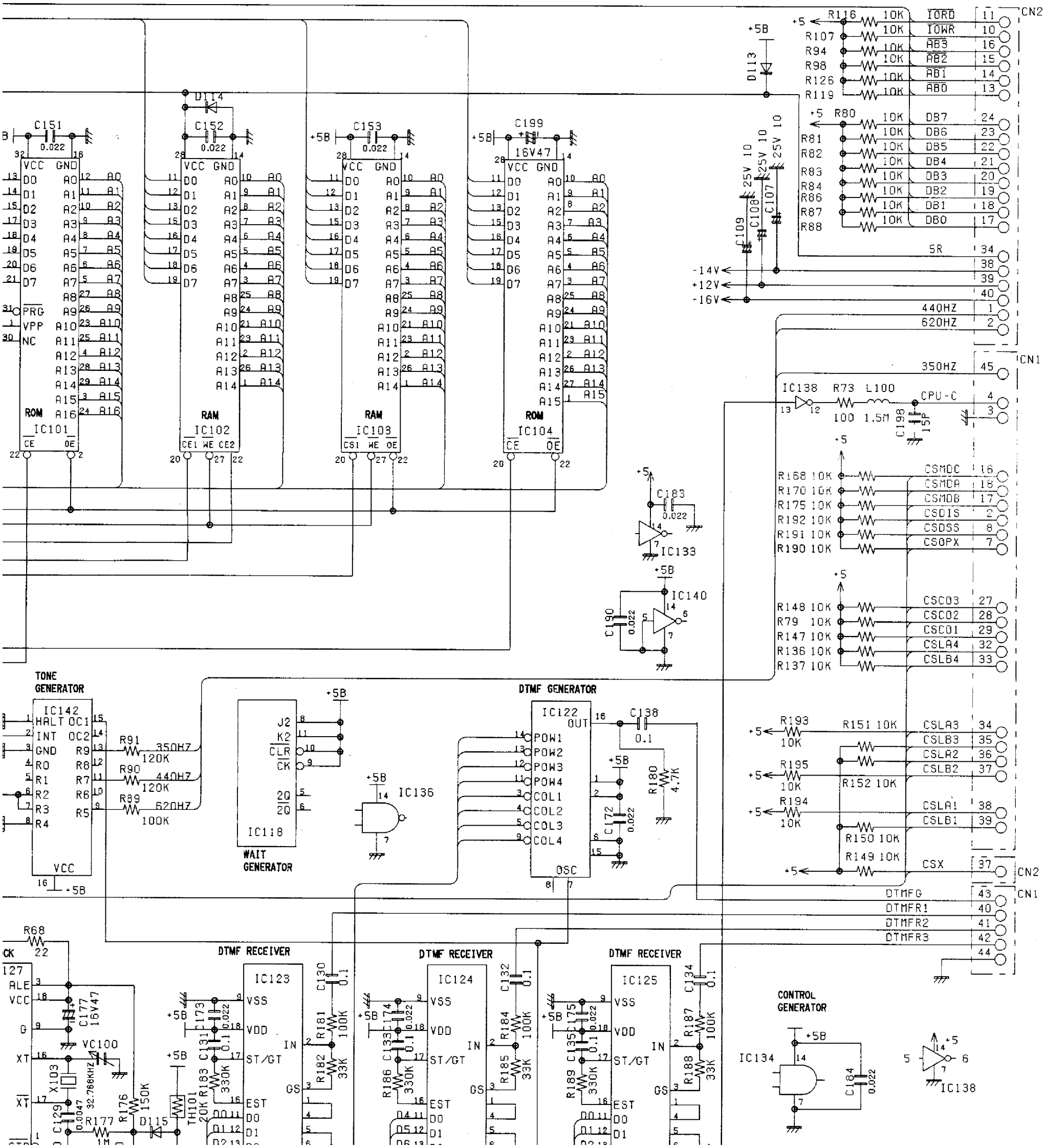


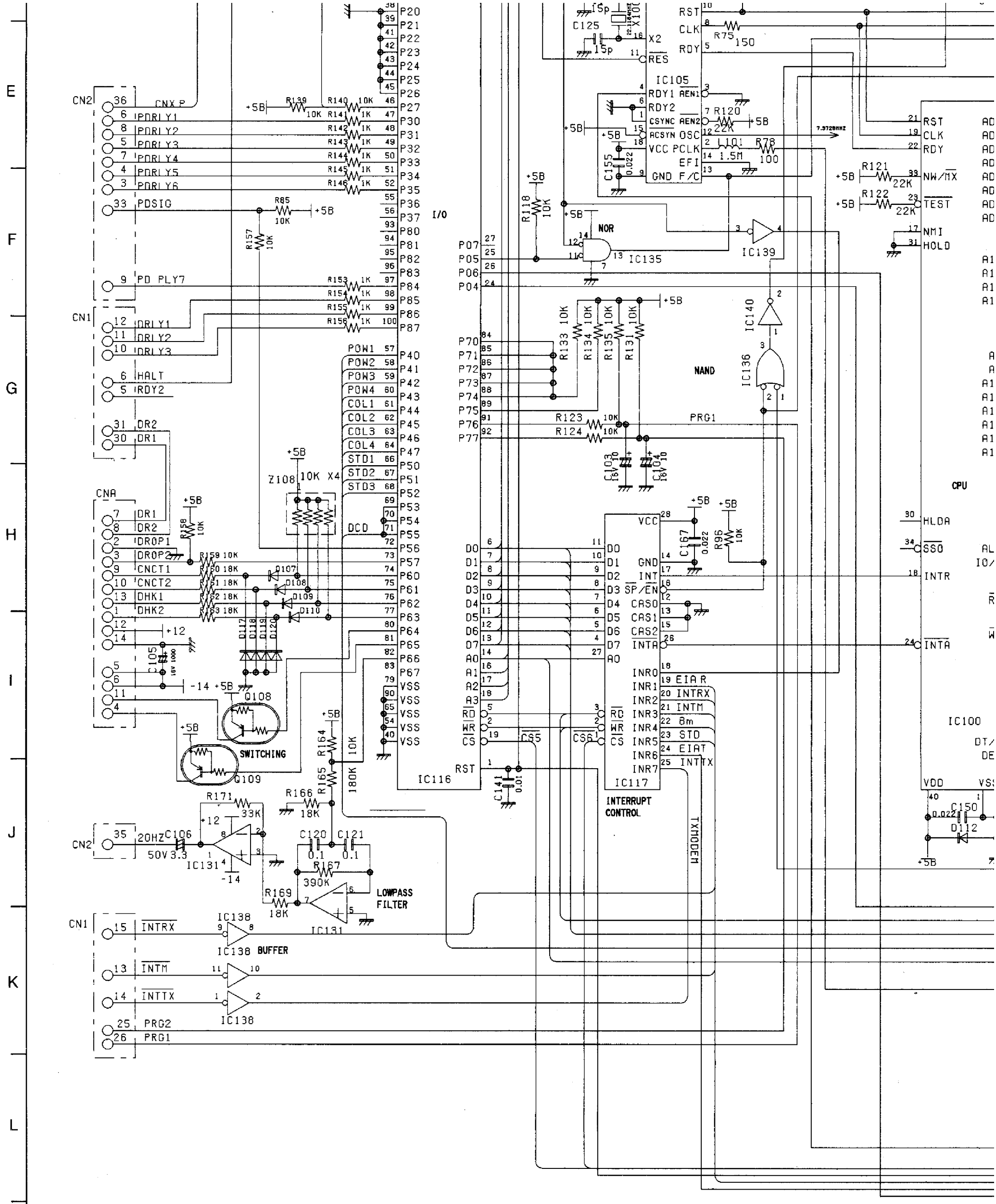

CN18
1
2 PD-S
3 5V RAM
4 2GHZ
5 BELL GND
6 BELL 1
CN19
1 -14VB
2 +12VB
3 -14V
CN20
1 +12V
2 -16V
3 VAG
4 +5VB
5 +5V
6
7
IO WR
IO RD
RST
ADD BUS 0
ADD BUS 1
ADD BUS 2
ADD BUS 3
DATA BUS0
DATA BUS1
DATA BUS2
DATA BUS3
DATA BUS4
DATA BUS5
DATA BUS6
DATA BUS7
CO 1C
CO 2C
CO 3C
CO 4C
CSC 3
CO 1B
CO 2B
CO 3B
CO 4B
CSC 2
CO 1A
CO 2A
CO 3A
CO 4A
CSC 1
CSLA4
CSLB4
EXT 1D
EXT 2D
EXT 3D
EXT 4D
EXT 5D
EXT 6D
EXT 7D
EXT 8D
BREAK 0
BREAK 1
BREAK 2
BREAK 3
PD R-7
CSLA3
CSLB3
EXT 1C
EXT 2C
EXT 3C
EXT 4C
EXT 5C
EXT 6C
EXT 7C
EXT 8C
PD R-5
PD R-6
CSLA2
CSLB2
EXT 1B
EXT 2B
EXT 3B
EXT 4B
EXT 5B
EXT 6B
EXT 7B
EXT 8B
PD R-3
PD R-4
5V RAM
BELL GND
BELL 1
-14VB
+12VB
-14V
+12V
-16V
VAG
+5VB
+5V
-14V B
+12V B
+ 12V
CN8 - c
CN8 - b
CN8 - a
CN6 - d
CN6 - c
CN6 - b

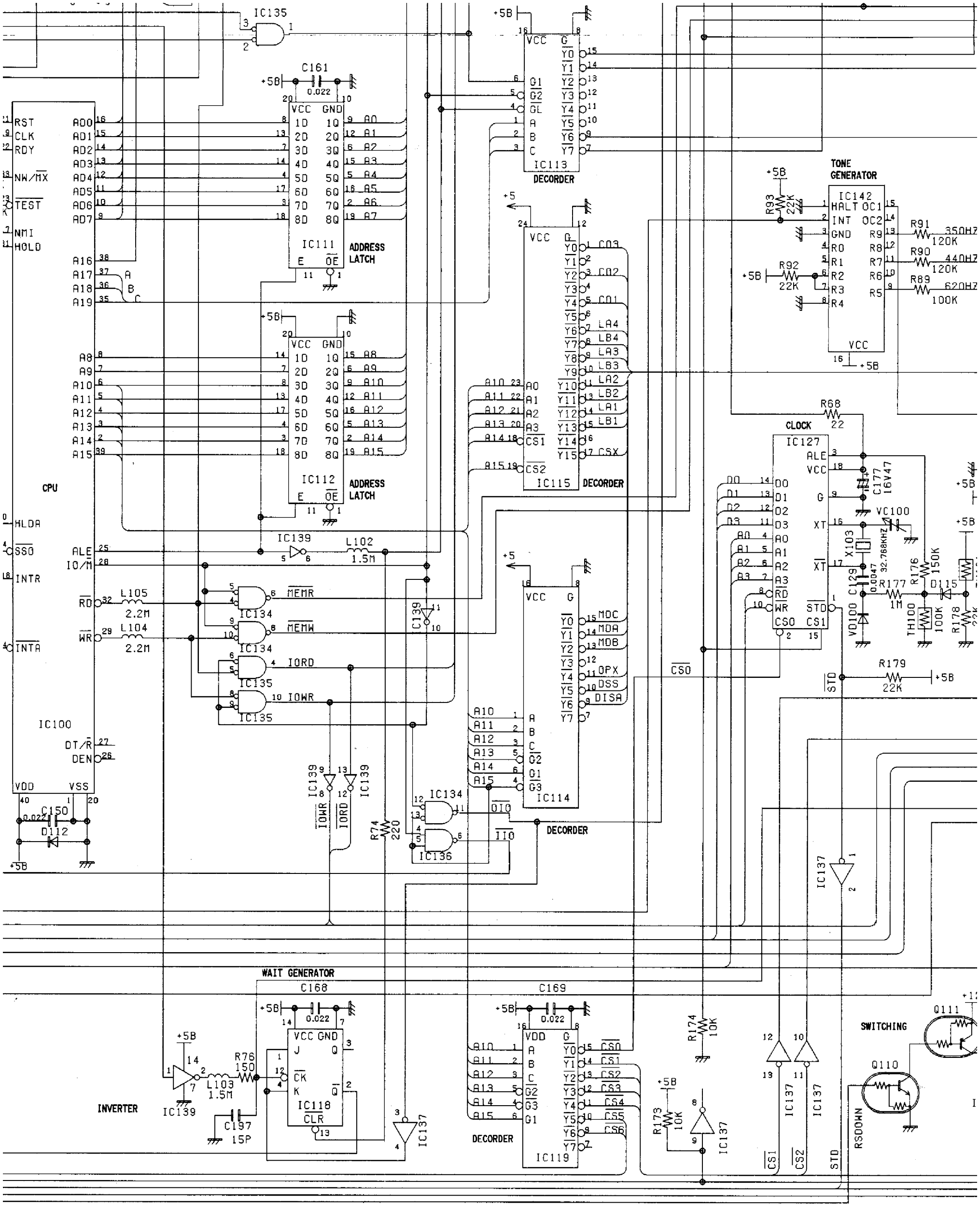

RESET
IC129
DRIVER
Q100-103 DRIVER
IC136
IC134
Q100
Q101
Q102
Q103
IC140 DRIVER
IC120-17
RESET
IC141
CLOCK GENERATOR
IC105
X1
X2
RST
CLK
RDY
RES
RDY1
RDY2
CSYNC
ACSYN
VCC
GND
AEN1
AEN2
OSC
PCLK
EFI
F/C
7.3728MHZ
NOR
IC135
IC139
NAND
IC136
IC140
PRG1
IC106
BUFFER
CPU
I/O
RST SW
POWER
ALARM
DAY
NIGHT
CNMD
CNDIS A
CNDIA G
CNX P
PDRLY1
PDRLY2
PDRLY3
PDRLY4
PDRLY5
PDRLY6
PDSIG
PD PLY7
DRLY1
DRLY2
DRLY3
HALT
RDY2
DR2
DR1
DROP1
HLDA
NMI
HOLD
TEST
NW/MX

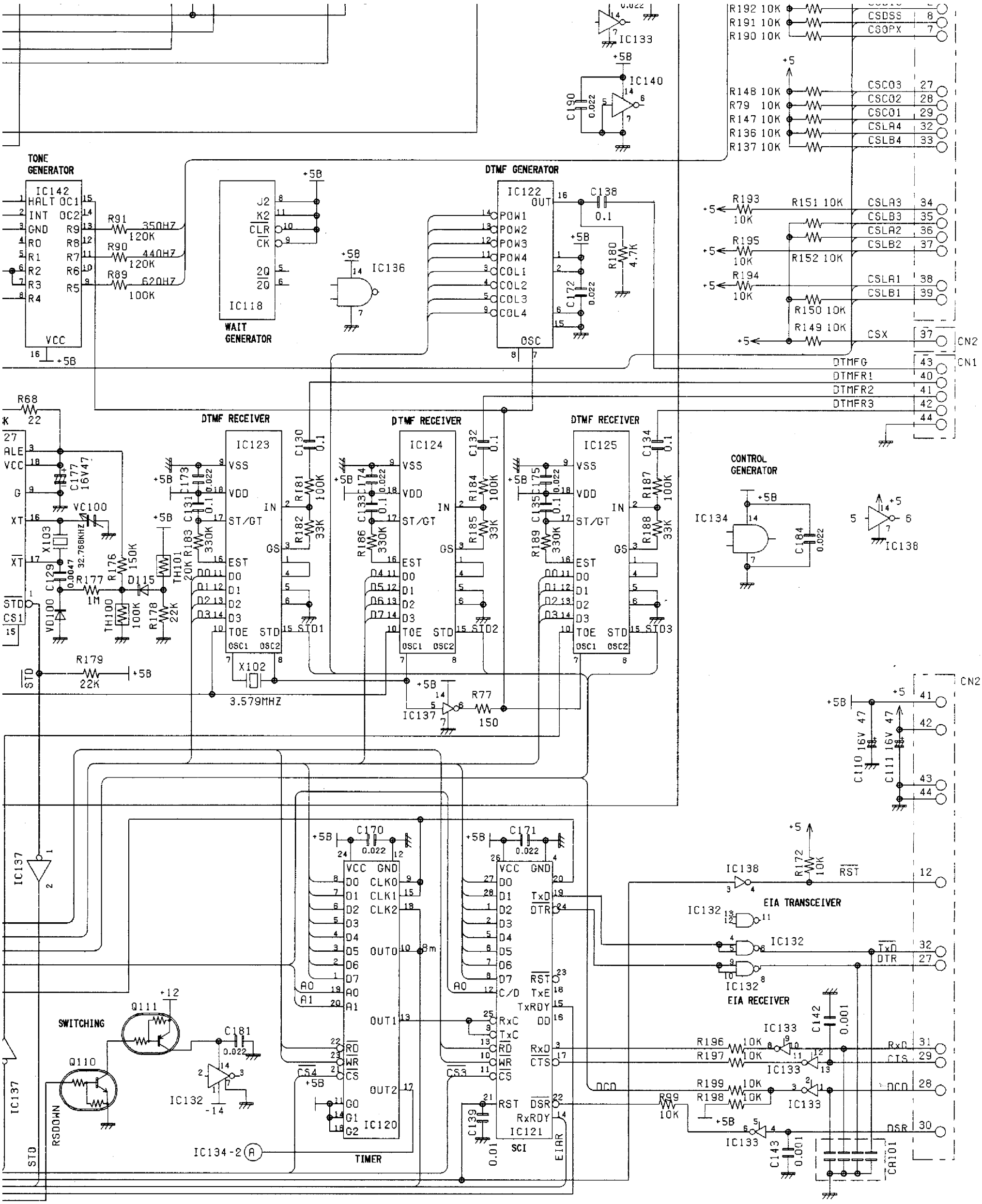
SCHEMATIC DIAGRAM (CPU)

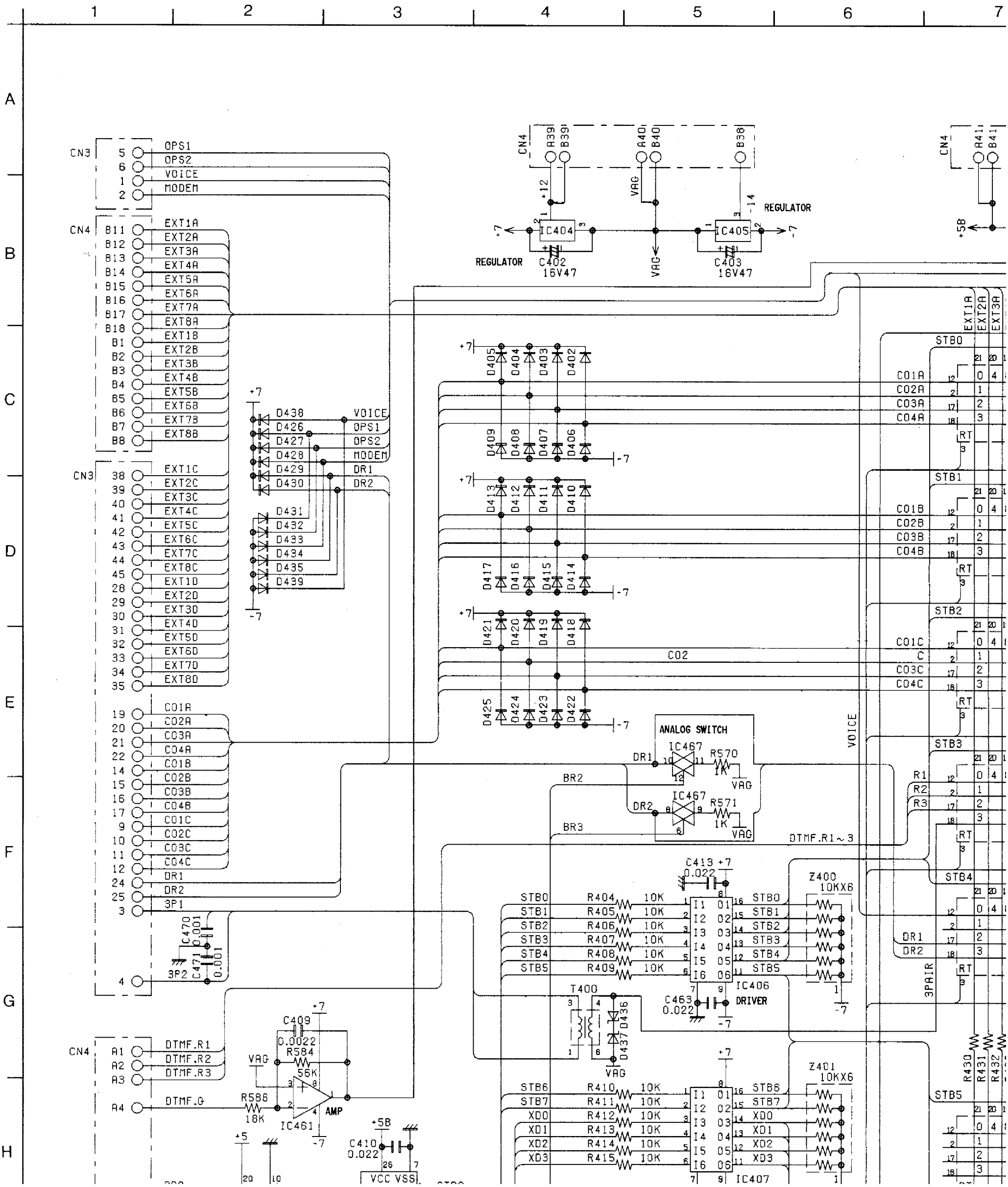



C151
0.022
C152
0.022
C153
0.022
C199
16V47
+5B
D113
D114
D115
VCC GND
D0 D1 D2 D3 D4 D5 D6 D7
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16
PRG VPP NC
ROM IC101 CE OE
RAM IC102 CE1 WE CE2
RAM IC103 CS1 WE OE
ROM IC104 CE OE
R116 10K IORD
R107 10K IOWR
R94 10K AB3
R98 10K AB2
R126 10K AB1
R119 10K AB0
R80 10K DB7
R81 10K DB6
R82 10K DB5
R83 10K DB4
R84 10K DB3
R86 10K DB2
R87 10K DB1
R88 10K DB0
25V 10
C109
C108
C107
5R
-14V
+12V
-16V
CN2
440HZ
620HZ
CN1
350HZ
IC138 R73 L100
CPU-C
100 1.5M
C198 15P
R168 10K CSMDC
R170 10K CSMDA
R175 10K CSMDB
R192 10K CSDIS
R191 10K CSDSS
R190 10K CSDPX
C183
IC133
IC140
C190
R148 10K CSC03
R79 10K CSC02
R147 10K CSC01
R136 10K CSLA4
R137 10K CSLB4
TONE GENERATOR
IC142
HALT OC1
INT OC2
GND R9
R0 R8
R1 R7
R2 R6
R3 R5
R4
R91 350HZ 120K
R90 440HZ 120K
R89 620HZ 100K
VCC
WAIT GENERATOR
IC118
J2 K2 CLR CK 2Q 2Q
IC136
DTMF GENERATOR
IC122
OUT
POW1 POW2 POW3 POW4 COL1 COL2 COL3 COL4
OSC
C138 0.1
R180 4.7K
C172 0.022
R193 10K R151 10K CSLA3
R195 10K R152 10K CSLB2
R194 10K CSLA1
R150 10K CSLB1
R149 10K CSX
DTMFG
DTMFR1
DTMFR2
DTMFR3
R68 22
CK
127
ALE
VCC
G
XT
C177 16V47
VC100
X103 32.768KHZ
C129 0.0047
R176 150K
R177 1M
D115
TH101 20K
DTMF RECEIVER
IC123
IC124
IC125
VSS VDD ST/GT EST DO D1 IN GS
C173 C131 R183 330K
C174 C133 R186 330K
C175 C135 R189 330K
C130 C132 C134 0.1
R181 R184 R187 100K
R182 R185 R188 33K
CONTROL GENERATOR
IC134
C184 0.022
IC138

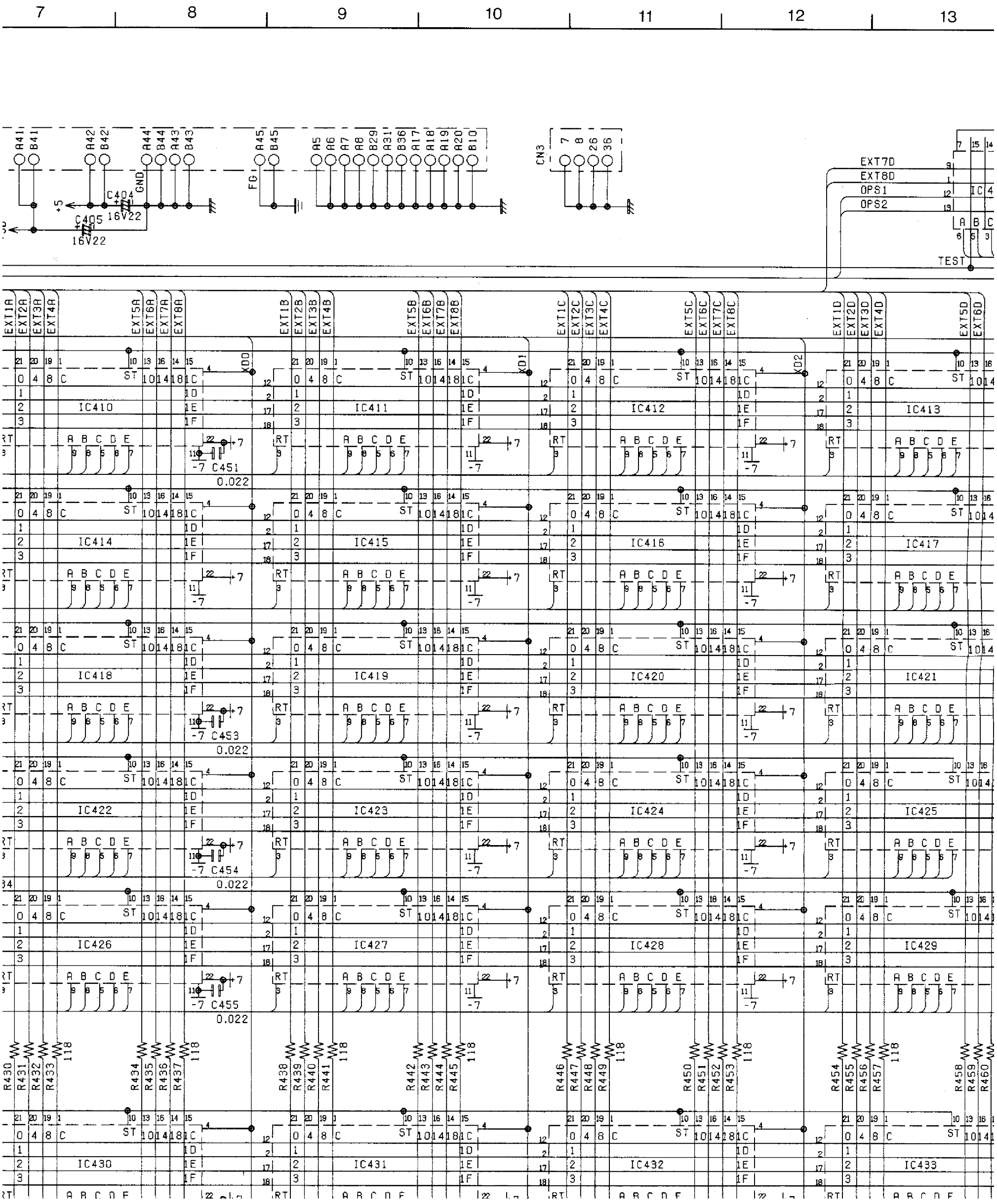

CN2
CNX P
PDRLY1
PDRLY2
PDRLY3
PDRLY4
PDRLY5
PDRLY6
PDSIG
PD PLY7
CN1
DRLY1
DRLY2
DRLY3
HALT
IRDY2
DR2
DR1
CNA
DR1
DR2
DR0P1
DR0P2
CNCT1
CNCT2
DHK1
DHK2
+5B
+12
-14
R139 10K
R140 10K
R141 1K
R142 1K
R143 1K
R144 1K
R145 1K
R146 1K
R85 10K
R157 10K
R153 1K
R154 1K
R155 1K
R156 1K
R158 10K
R159 10K
R160 18K
R161 18K
R162 18K
R163 18K
Z108 10K X4
D107
D108
D109
D110
D117
D118
D119
D120
C105 16V 1000
Q108
SWITCHING
Q109
R164 10K
R165 180K
R166 18K
R171 33K
C106 20HZ 50V3.3
IC131
C120 0.1
C121 0.1
R167 390K
R169 18K
LOWPASS FILTER
IC138
IC138 BUFFER
INTRX
INTM
INTTX
PRG2
PRG1
P20
P21
P22
P23
P24
P25
P26
P27
P30
P31
P32
P33
P34
P35
P36
P37
P80
P81
P82
P83
P84
P85
P86
P87
POW1
POW2
POW3
POW4
COL1
COL2
COL3
COL4
STD1
STD2
STD3
DCD
P40
P41
P42
P43
P44
P45
P46
P47
P50
P51
P52
P53
P54
P55
P56
P57
P60
P61
P62
P63
P64
P65
P66
P67
VSS
I/O
C125 15p
X1 22.1184MHZ
X2
RES
RST
CLK
RDY
R75 150
IC105
RDY1
RDY2
CSYNC
ACSYN
VCC
GND
AEN1
AEN2
OSC
PCLK
EFI
F/C
R120 22K
R110 1.5M
R78 100
C155 0.022
7.3728MHZ
R118 10K
NOR
IC135
IC139
P07
P05
P06
P04
P70
P71
P72
P73
P74
P75
P76
P77
R133 10K
R134 10K
R135 10K
R131 10K
IC140
NAND
IC136
R123 10K
R124 10K
PRG1
C103 16V 10
C104 16V 10
D0
D1
D2
D3
D4
D5
D6
D7
A0
A1
A2
A3
RD
WR
CS
CS5
CS6
RST
IC116
C141 0.01
VCC
GND
INT
SP/EN
CAS0
CAS1
CAS2
INTA
INR0
INR1
INR2
INR3
INR4
INR5
INR6
INR7
EIAR
INTRX
INTM
8m
STD
EIAT
INTTX
IC117
INTERRUPT CONTROL
TXMODEM
C167 0.022
R96 10K
R121 22K
R122 22K
NW/MX
TEST
NMI
HOLD
CPU
HLDA
SSO
INTR
INTA
IC100
VDD
VSS
C150 0.022
D112
AD
A1
A


IC135
C161
0.022
+5B
IC111
ADDRESS LATCH
IC112
ADDRESS LATCH
IC113
DECORDER
IC115
DECORDER
IC114
DECORDER
IC100
CPU
RST
CLK
RDY
NW/MX
TEST
NMI
HOLD
HLDA
SSO
INTR
INTA
ALE
IO/M
RD
WR
DT/R
DEN
VDD
VSS
C150
D112
IC134
IC135
IC136
IC139
IC137
L105
2.2M
L104
2.2M
L102
1.5M
MEMR
MEMW
IORD
IOWR
R74
220
IO
CSO
TONE GENERATOR
IC142
R93
R92
22K
R91
350HZ
120K
R90
440HZ
120K
R89
620HZ
100K
R68
22
CLOCK
IC127
C177
16V47
VC100
X103
32.768KHZ
C129
0.0047
R176
150K
R177
1M
D115
VD100
TH100
100K
R178
R179
22K
STD
WAIT GENERATOR
C168
C169
R76
150
L103
1.5M
C197
15P
IC118
CLR
INVERTER
R174
10K
R173
10K
SWITCHING
Q111
Q110
RSDOWN
CS0
CS1
CS2
CS3
CS4
CS5
CS6
CSX

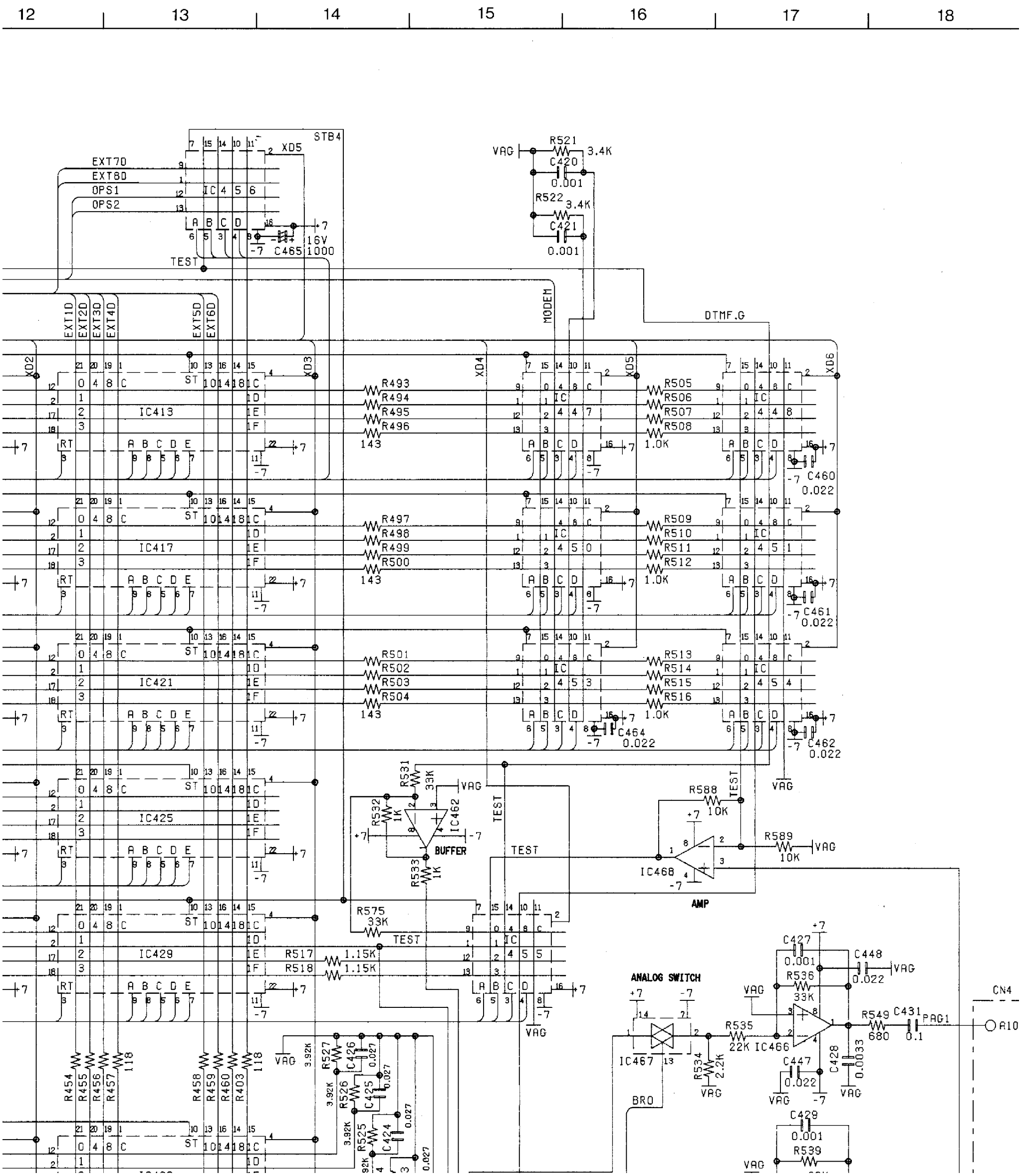

TONE GENERATOR
IC142
HALT OC1
INT OC2
GND R9
R0 R8
R1 R7
R2 R6
R3 R5
R4
VCC
+5B
R91 350HZ 120K
R90 440HZ 120K
R89 620HZ 100K
IC118
J2
K2
CLR
CK
2Q
2Q
WAIT GENERATOR
IC136
DTMF GENERATOR
IC122
OUT
POW1
POW2
POW3
POW4
COL1
COL2
COL3
COL4
OSC
C138 0.1
C172 0.022
R180 4.7K
R192 10K
R191 10K
R190 10K
CSDSS
CSOPX
R148 10K
R79 10K
R147 10K
R136 10K
R137 10K
CSC03
CSC02
CSC01
CSLA4
CSLB4
R193 10K
R151 10K
CSLA3
CSLB3
CSLA2
CSLB2
R195 10K
R152 10K
R194 10K
CSLA1
CSLB1
R150 10K
R149 10K
CSX
CN2
CN1
DTMFG
DTMFR1
DTMFR2
DTMFR3
R68 22
DTMF RECEIVER
IC123
IC124
IC125
VSS
VDD
IN
ST/GT
GS
EST
D0
D1
D2
D3
TOE
STD
OSC1
OSC2
C130 0.1
C132 0.1
C134 0.1
R181 100K
R182 33K
R184 100K
R185 33K
R187 100K
R188 33K
C177 16V47
VC100
X103 32.768KHZ
C129 0.0047
R176 150K
R177 1M
D115
TH101 20K
R178 22K
TH100 100K
VD100
R183 330K
R186 330K
R189 330K
C131 0.1
C133 0.1
C135 0.1
C173 0.022
C174 0.022
C175 0.022
CS1
STD
R179 22K
X102 3.579MHZ
IC137
R77 150
CONTROL GENERATOR
IC134
C184 0.022
IC138
C110 16V 47
C111 16V 47
C170 0.022
C171 0.022
IC120
IC121
SCI
TIMER
OUT0
OUT1
OUT2
A0
A1
RD
WR
CS
G0
G1
G2
C/D
TxE
TxRDY
RxC
TxC
RxD
CTS
DD
RST
DSR
RxRDY
EIAR
C139 0.01
EIA TRANSCEIVER
IC132
R172 10K
RST
TxD
DTR
EIA RECEIVER
C142 0.001
C143 0.001
CA101
IC133
R196 10K
R197 10K
R199 10K
R198 10K
R99 10K
RxD
CTS
DCD
DSR
SWITCHING
Q111
Q110
C181 0.022
RSDOWN
IC134-2
+12
-14

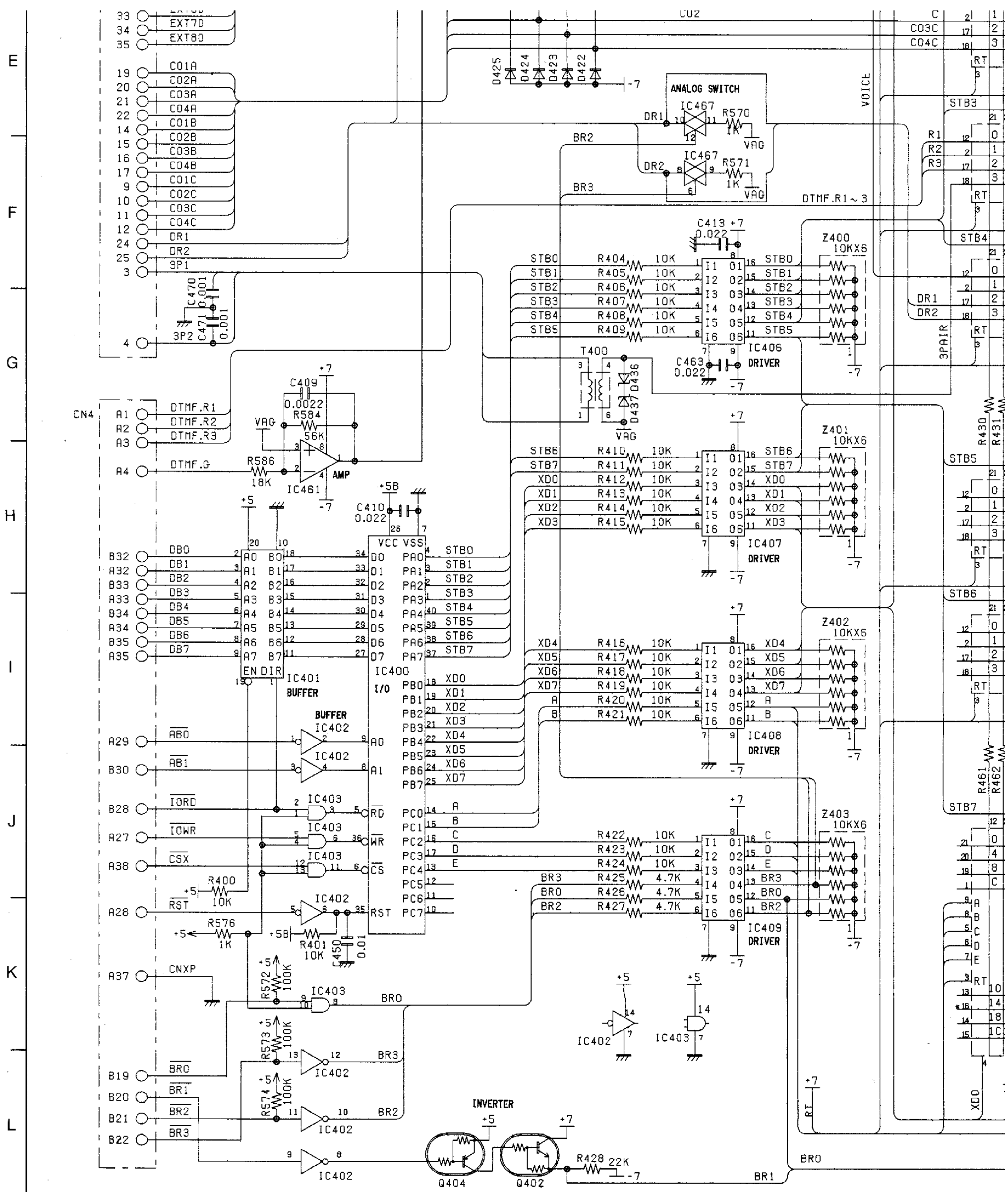

CN3
OPS1
OPS2
VOICE
MODEM
CN4
EXT1A
EXT2A
EXT3A
EXT4A
EXT5A
EXT6A
EXT7A
EXT8A
EXT1B
EXT2B
EXT3B
EXT4B
EXT5B
EXT6B
EXT7B
EXT8B
CN3
EXT1C
EXT2C
EXT3C
EXT4C
EXT5C
EXT6C
EXT7C
EXT8C
EXT1D
EXT2D
EXT3D
EXT4D
EXT5D
EXT6D
EXT7D
EXT8D
CO1A
CO2A
CO3A
CO4A
CO1B
CO2B
CO3B
CO4B
CO1C
CO2C
CO3C
CO4C
DR1
DR2
3P1
3P2
C470 0.001
C471 0.001
+7
D438
D426
D427
D428
D429
D430
D431
D432
D433
D434
D435
D439
-7
VOICE
OPS1
OPS2
MODEM
DR1
DR2
CN4
A39
B39
A40
B40
B38
+12
VAG
-14
REGULATOR
+7
IC404
IC405
-7
REGULATOR
C402
16V47
VAG
C403
16V47
CN4
A41
B41
+5B
D405
D404
D403
D402
D409
D408
D407
D406
D413
D412
D411
D410
D417
D416
D415
D414
D421
D420
D419
D418
D425
D424
D423
D422
CO2
ANALOG SWITCH
IC467
DR1
R570
1K
VAG
BR2
IC467
DR2
R571
1K
VAG
BR3
VOICE
DTMF.R1~3
EXT1A
EXT2A
EXT3A
STB0
STB1
STB2
STB3
STB4
STB5
CO1A
CO2A
CO3A
CO4A
CO1B
CO2B
CO3B
CO4B
CO1C
C
CO3C
CO4C
R1
R2
R3
DR1
DR2
3PAIR
RT
C413 +7
0.022
Z400
10KX6
STB0
R404 10K
STB1
R405 10K
STB2
R406 10K
STB3
R407 10K
STB4
R408 10K
STB5
R409 10K
IC406
DRIVER
C463
0.022
T400
D436
D437
VAG
Z401
10KX6
STB6
R410 10K
STB7
R411 10K
XD0
R412 10K
XD1
R413 10K
XD2
R414 10K
XD3
R415 10K
IC407
R430
R431
R432
CN4
A1
A2
A3
A4
DTMF.R1
DTMF.R2
DTMF.R3
DTMF.G
C409
0.0022
VAG
R584
56K
R586
18K
IC461
AMP
+5
+5B
C410
0.022
VCC VSS

SCHEMATIC DIAGRAM (CROSS POINT SWITCH)

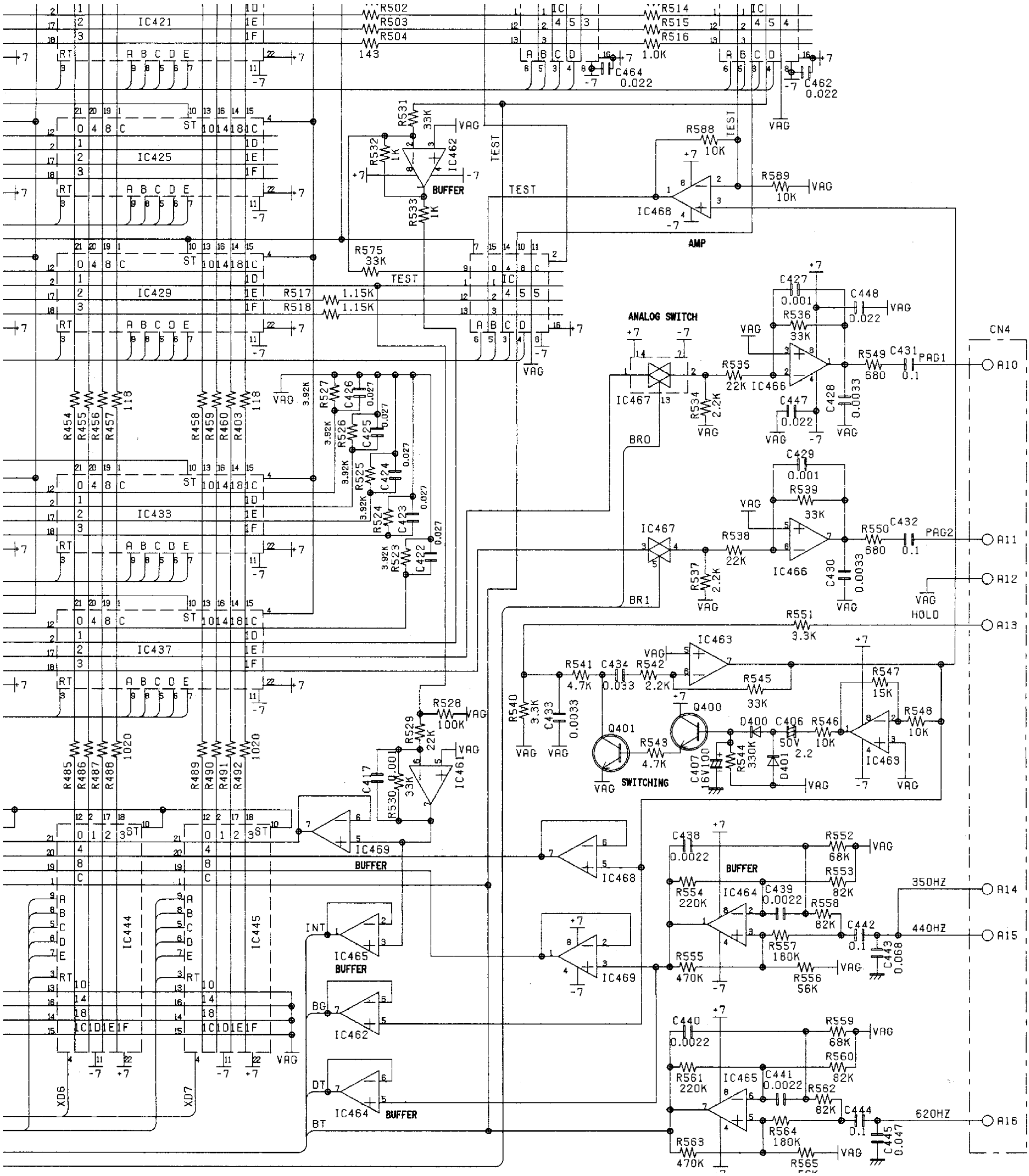


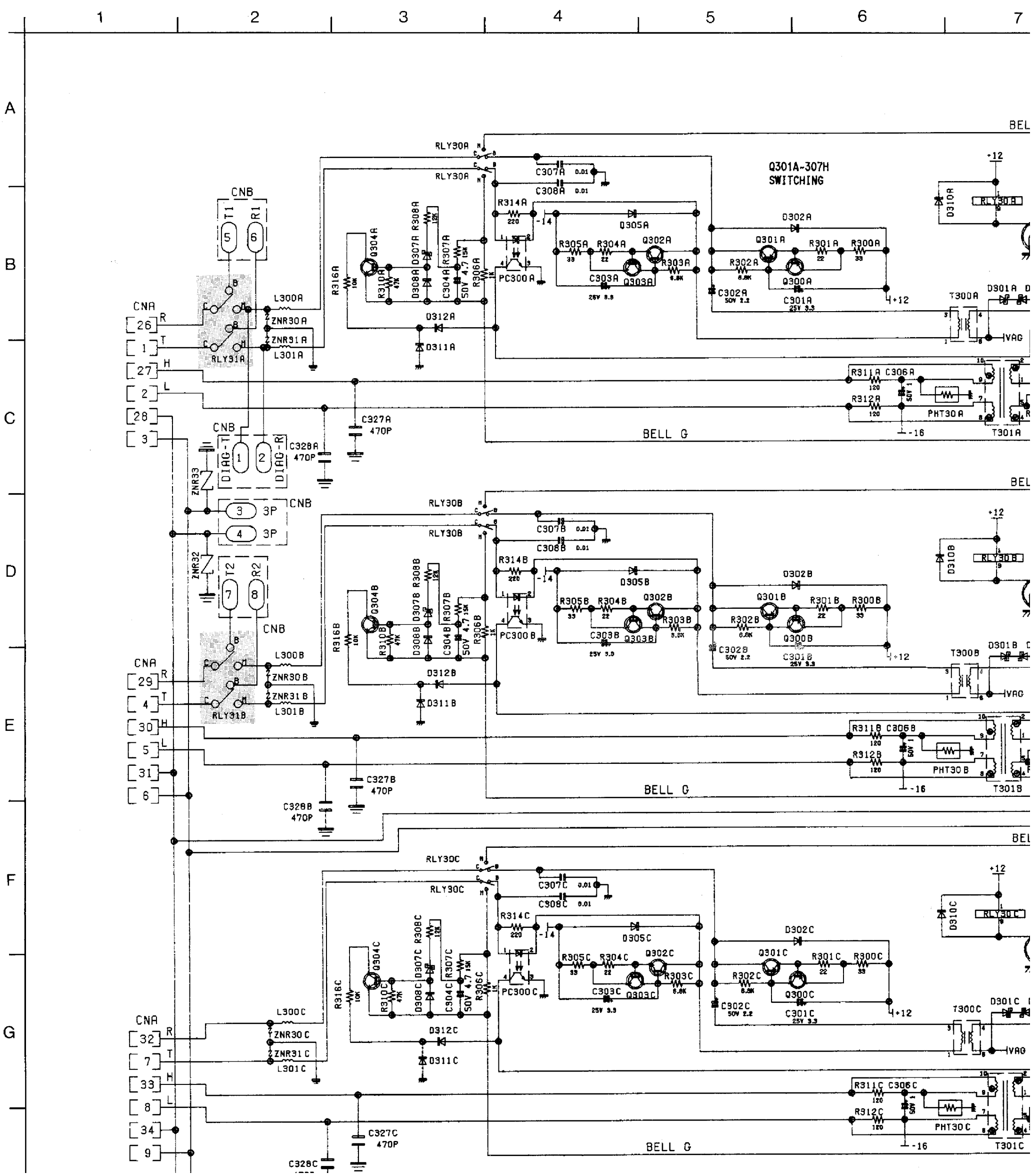
H)


12
13
14
15
16
17
18
STB4
XD5
EXT7D
EXT8D
OPS1
OPS2
TEST
EXT1D
EXT2D
EXT3D
EXT4D
EXT5D
EXT6D
MODEM
DTMF.G
VAG
R521
3.4K
C420
0.001
R522
3.4K
C421
0.001
XD2
XD3
XD4
XD5
XD6
IC413
IC417
IC421
IC425
IC429
R493
R494
R495
R496
143
R497
R498
R499
R500
143
R501
R502
R503
R504
143
R505
R506
R507
R508
1.0K
R509
R510
R511
R512
1.0K
R513
R514
R515
R516
1.0K
C460
0.022
C461
0.022
C464
0.022
C462
0.022
R531
33K
R532
1K
IC462
BUFFER
R533
1K
R575
33K
R517
1.15K
R518
1.15K
R588
10K
R589
10K
IC468
AMP
ANALOG SWITCH
IC467
IC466
R535
22K
R534
2.2K
R536
33K
C427
0.001
C448
0.022
C447
0.022
C428
0.0033
C429
0.001
R539
R549
680
C431
0.1
PAG1
CN4
A10
BRO
R454
R455
R456
R457
118
R458
R459
R460
R403
118
R527
R526
R525
3.92K
C426
C425
C424
0.027

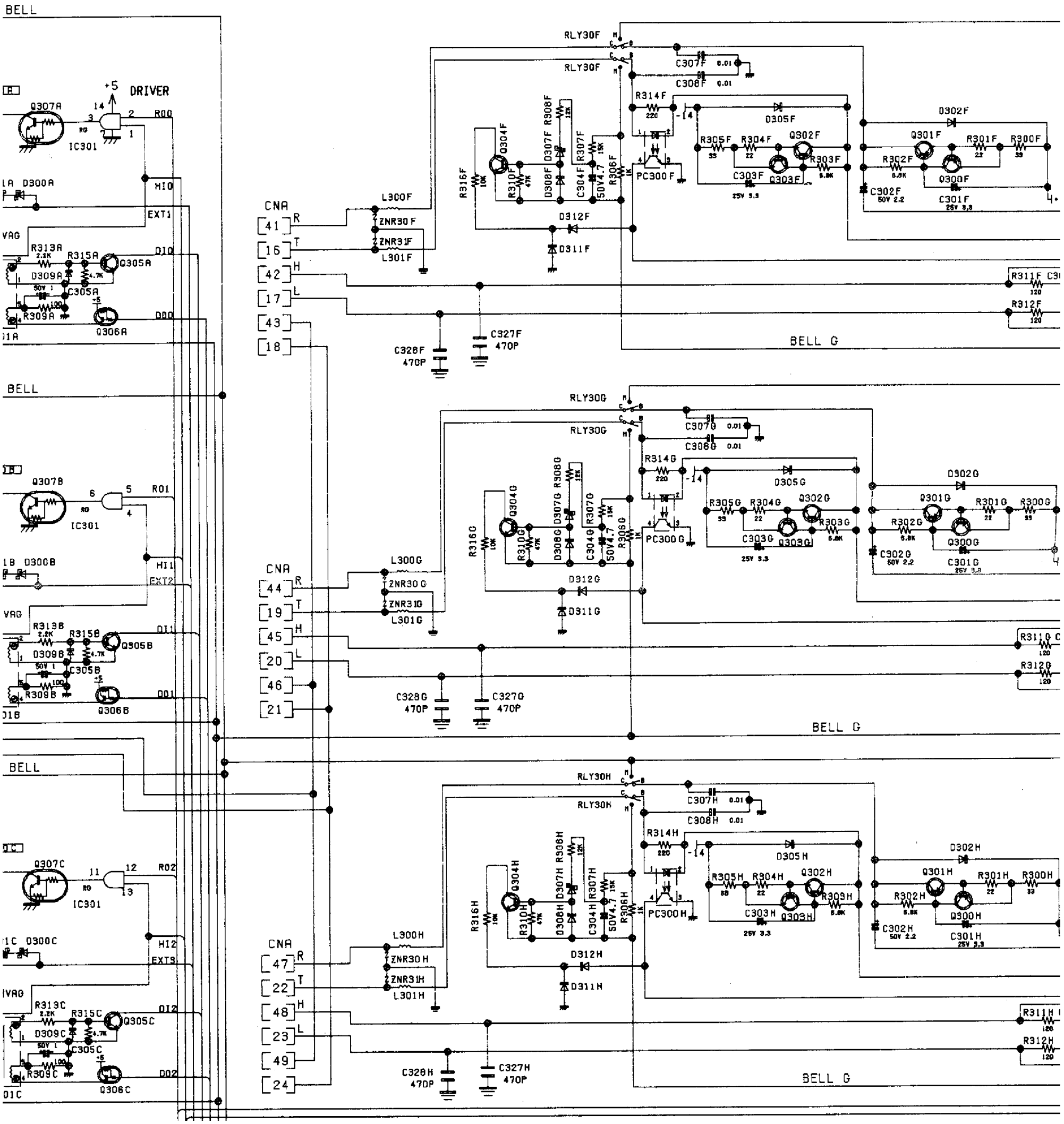

33 EXT7D
34 EXT8D
35
19 C01A
20 C02A
21 C03A
22 C04A
14 C01B
15 C02B
16 C03B
17 C04B
9 C01C
10 C02C
11 C03C
12 C04C
24 DR1
25 DR2
3 3P1
4
3P2
C470 0.001
C471 0.001
CN4
A1 DTMF.R1
A2 DTMF.R2
A3 DTMF.R3
A4 DTMF.G
C409 0.0022
R584 56K
R586 18K
IC461 AMP
VAG
+7
-7
+5B
+5
C410 0.022
IC401 BUFFER
IC400 I/O
IC402 BUFFER
IC403
IC407 DRIVER
IC408 DRIVER
IC409 DRIVER
IC406 DRIVER
ANALOG SWITCH
IC467
R570 1K
R571 1K
DR1
DR2
BR2
BR3
DTMF.R1 ~ 3
VOICE
C413 +7 0.022
C463 0.022
T400
D436
D437
D422
D423
D424
D425
R404 10K
R405 10K
R406 10K
R407 10K
R408 10K
R409 10K
STB0
STB1
STB2
STB3
STB4
STB5
Z400 10KX6
R410 10K
R411 10K
R412 10K
R413 10K
R414 10K
R415 10K
STB6
STB7
XD0
XD1
XD2
XD3
Z401 10KX6
R416 10K
R417 10K
R418 10K
R419 10K
R420 10K
R421 10K
XD4
XD5
XD6
XD7
A
B
Z402 10KX6
R422 10K
R423 10K
R424 10K
R425 4.7K
R426 4.7K
R427 4.7K
C
D
E
BR3
BR0
BR2
Z403 10KX6
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
B32
A32
B33
A33
B34
A34
B35
A35
A29 ABO
B30 AB1
B28 IORD
A27 IOWR
A38 CSX
A28 RST
R400 10K
R576 1K
R401 10K
C450 0.01
A37 CNXP
B19 BRO
B20 BR1
B21 BR2
B22 BR3
R572 100K
R573 100K
R574 100K
INVERTER
Q404
Q402
R428 22K
BRO
BR1
C
CO3C
CO4C
RT
STB3
STB4
STB5
STB6
STB7
R1
R2
R3
DR1
DR2
3PAIR
R430
R431
R461
R462
XDO

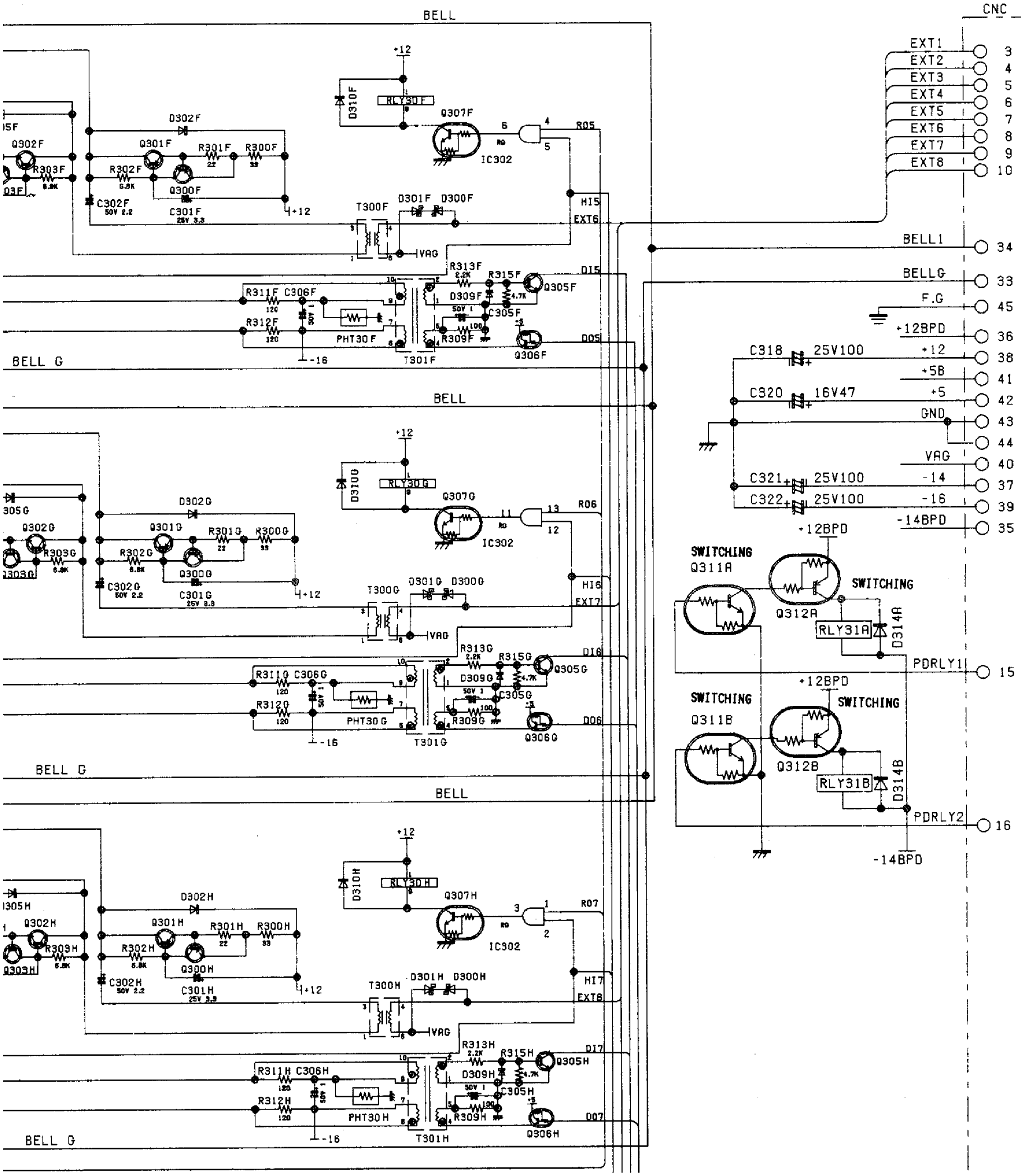
IC410 -456 CROSS POINT SWITCH

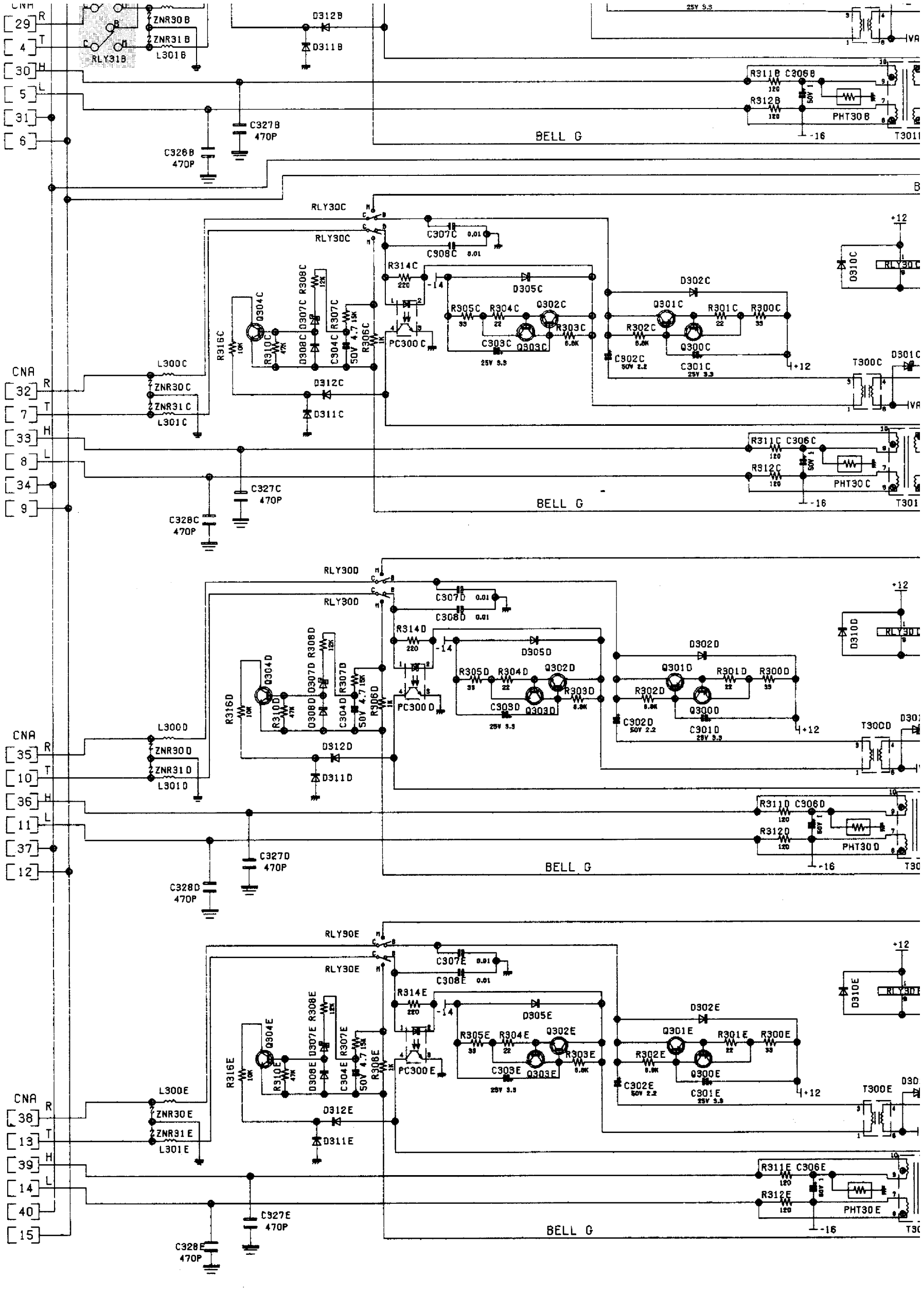

IC421
IC425
IC429
IC433
IC437
IC444
IC445
R502
R503
R504
143
R514
R515
R516
1.0K
C464
0.022
C462
0.022
R531
33K
R532
1K
IC462
BUFFER
R533
1K
TEST
R588
10K
R589
10K
IC468
AMP
R575
33K
R517
1.15K
R518
1.15K
ANALOG SWITCH
IC467
C427
0.001
C448
0.022
R536
33K
R535
22K
IC466
R549
680
C431
0.1
PAG1
CN4
A10
R534
2.2K
C447
0.022
C428
0.0033
BRO
C429
0.001
R539
33K
R538
22K
R550
680
C432
0.1
PAG2
A11
R537
2.2K
C430
0.0033
A12
BR1
VAG
HOLD
R551
3.3K
A13
IC463
R541
4.7K
C434
0.033
R542
2.2K
R545
33K
R547
15K
R548
10K
R540
3.3K
C433
0.0033
Q400
Q401
R543
4.7K
D400
C406
50V
2.2
R546
10K
IC463
R544
330K
C407
16V100
D401
SWITCHING
R527
3.92K
C426
0.027
R526
3.92K
C425
0.027
R525
3.92K
C424
0.027
R524
3.92K
C423
0.027
R523
3.92K
C422
0.027
R528
100K
R529
22K
R530
33K
C417
0.001
IC461
IC469
BUFFER
INT
IC465
BUFFER
BG
IC462
DT
IC464
BUFFER
BT
IC468
IC469
C438
0.0022
R552
68K
R553
82K
R554
220K
IC464
C439
0.0022
R558
82K
C442
0.1
R557
180K
R555
470K
R556
56K
C443
0.068
350HZ
A14
440HZ
A15
C440
0.0022
R559
68K
R560
82K
R561
220K
IC465
C441
0.0022
R562
82K
C444
0.1
R564
180K
R563
470K
R565
620HZ
A16
C445
0.047
R454
R455
R456
R457
118
R458
R459
R460
R403
118
R485
R486
R487
R488
1020
R489
R490
R491
R492
1020
XD6
XD7
RT
ST
A B C D E
0 4 8 C
1 2 3
1D 1E 1F
1C 1D 1E 1F
+7
-7
VAG

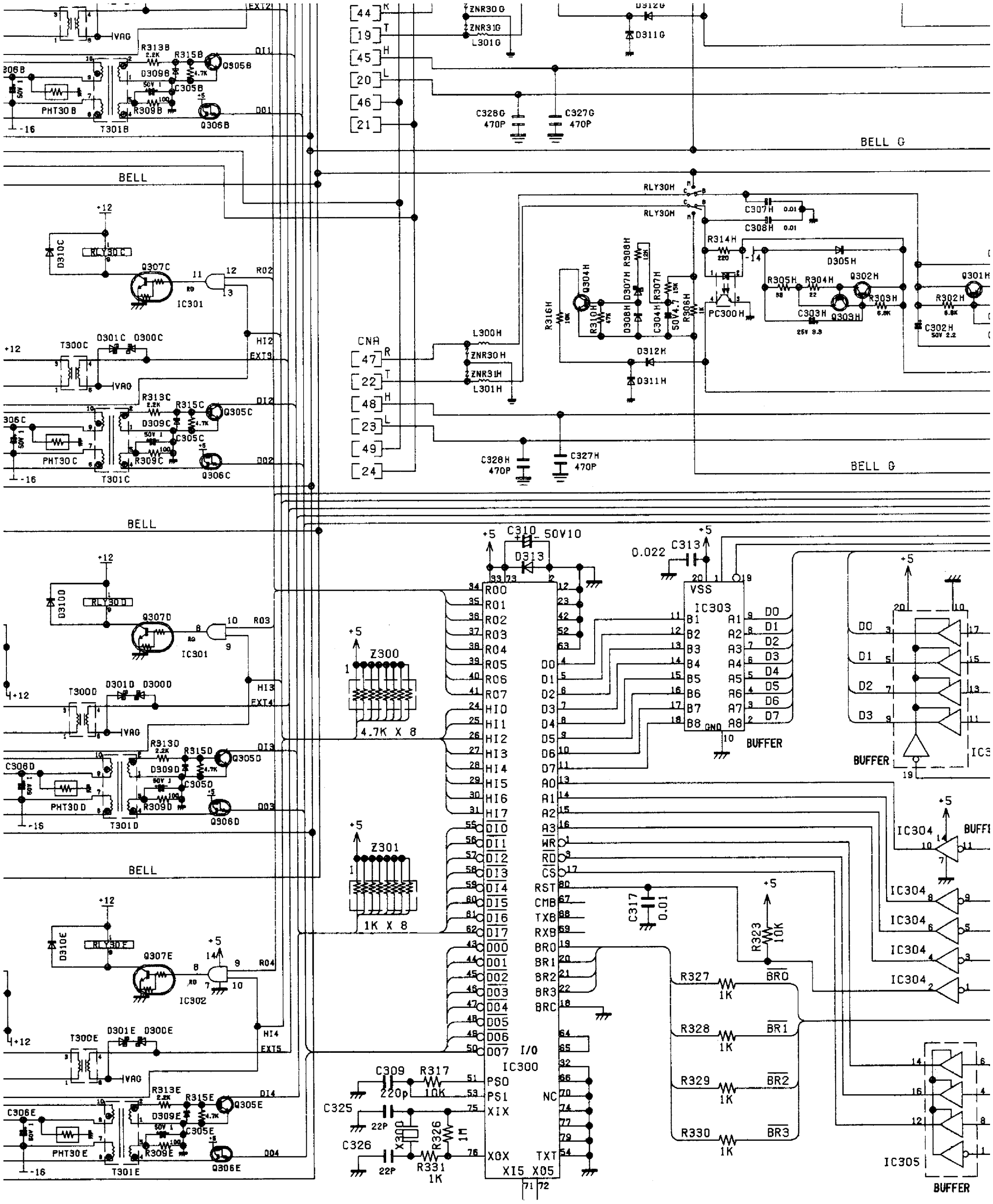

Q301A~307H
SWITCHING
CNA
CNB
RLY30A
RLY30B
RLY30C
RLY31A
RLY31B
L300A
L301A
ZNR30A
ZNR31A
ZNR33
ZNR32
C307A 0.01
C308A 0.01
R314A 220
Q305A
Q302A
Q301A
Q300A
R305A 33
R304A 22
R303A 6.8K
R302A 6.8K
R301A 22
R300A 33
C303A 25V 6.8
C302A 50V 2.2
C301A 25V 3.3
PC300A
Q304A
R310A 47K
R316A 10K
D307A R308A 12K
D308A
C304A
R307A
50V 4.7 15K
R306A 1K
D312A
D311A
D310A
+12
-14
-16
T300A
T301A
PHT30A
R311A 120
R312A 120
C306A 50V 1
IVAG
BELL G
C327A 470P
C328A 470P
DIAG-T
DIAG-R
T1
R1
T2
R2
3P
CNA R 26
CNA T 1
CNA H 27
CNA L 2
CNA 28
CNA 3
CNA R 29
CNA T 4
CNA H 30
CNA L 5
CNA 31
CNA 6
CNA R 32
CNA T 7
CNA H 33
CNA L 8
CNA 34
CNA 9

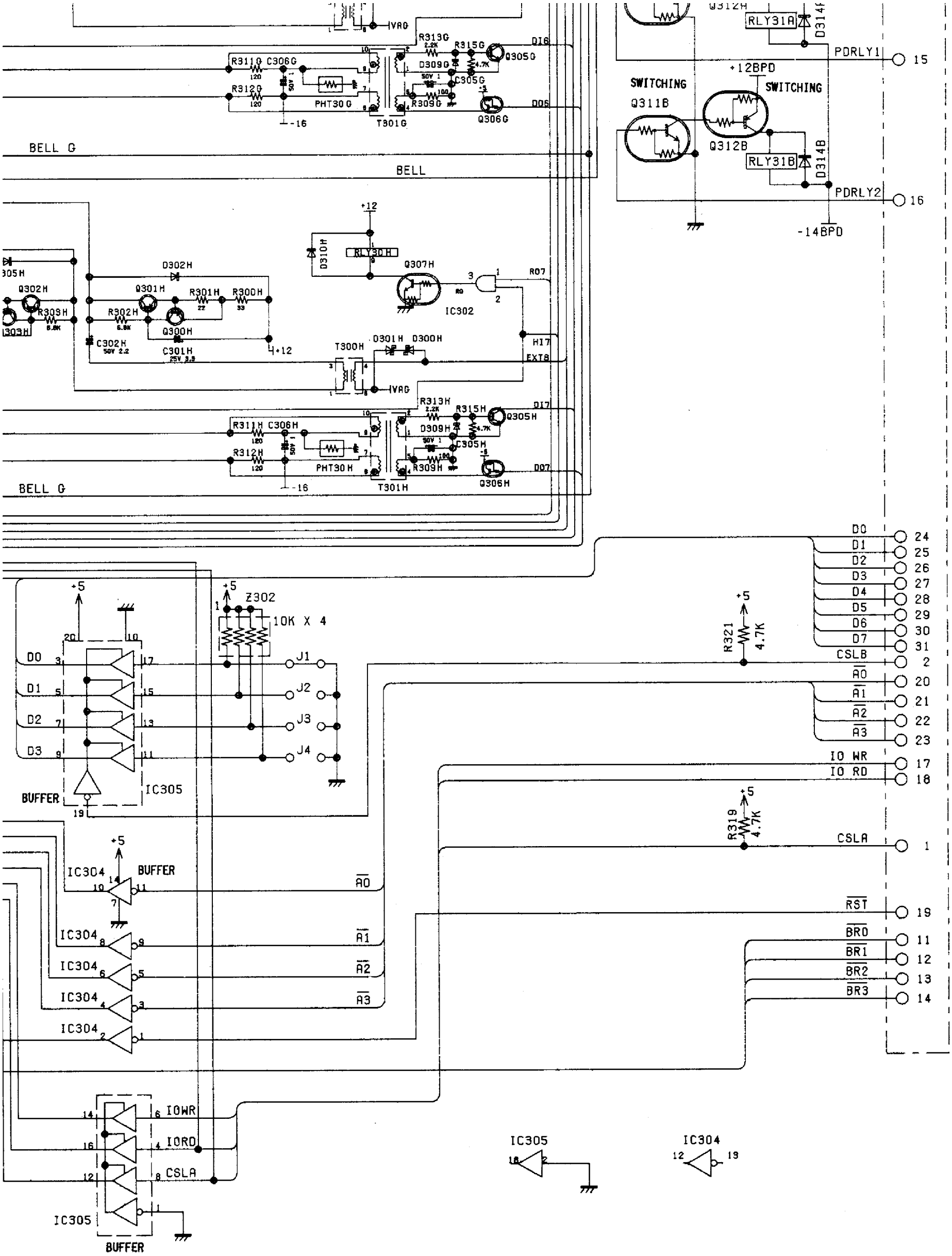
SCHEMATIC DIAGRAM (LC1, 2)




BELL
CNC
EXT1
EXT2
EXT3
EXT4
EXT5
EXT6
EXT7
EXT8
BELL1
BELLG
F.G
+12BPD
C318 25V100
C320 16V47
C321 25V100
C322 25V100
+12
+5B
+5
GND
VAG
-14
-16
-14BPD
PDRLY1
PDRLY2
SWITCHING
Q311A
Q312A
Q311B
Q312B
RLY31A
RLY31B
D314A
D314B
+12
D310F
RLY30F
Q307F
IC302
R05
D302F
Q902F
Q901F
R301F
R300F
R303F
R302F
Q900F
C302F
C301F
T300F
D301F D300F
HI5
EXT6
VAG
R313F
R315F
Q305F
D15
R311F C306F
R312F
D309F
C305F
R309F
PHT30F
T301F
Q306F
D05
BELL G
BELL
D310G
RLY30G
Q307G
R06
D302G
Q902G
Q901G
R301G
R300G
R303G
R302G
Q900G
C302G
C301G
T300G
D301G D300G
HI6
EXT7
R313G
R315G
Q305G
D16
R311G C306G
R312G
D309G
C305G
R309G
PHT30G
T301G
Q306G
D06
BELL G
BELL
D310H
RLY30H
Q307H
IC302
R07
D302H
Q902H
Q901H
R301H
R300H
R303H
R302H
Q900H
C302H
C301H
T300H
D301H D300H
HI7
EXT8
VAG
R313H
R315H
Q305H
D17
R311H C306H
R312H
D309H
C305H
R309H
PHT30H
T301H
Q306H
D07
BELL G


CNA
29 R
4 T
30 H
5 L
31
6
RLY31B
ZNR30B
ZNR31B
L301B
D312B
D311B
C327B 470P
C328B 470P
BELL G
R311B C306B
R312B
PHT30B
T301
RLY30C
C307C 0.01
C908C 0.01
R314C 220
D305C
R316C 10K
Q304C
R310C 47K
D307C R308C 12K
D308C
R307C
C304C
R306C 1K
PC300C
R305C 33
R304C 22
Q302C
R303C 6.8K
C303C
Q303C
D302C
Q301C
R301C 22
R300C 33
R302C 6.8K
Q300C
C302C 50V 2.2
C301C 25V 3.3
+12
D310C
T300C
D301C
CNA
32 R
7 T
33 H
8 L
34
9
L300C
ZNR30C
ZNR31C
L301C
D312C
D311C
C327C 470P
C328C 470P
BELL G
R311C C306C
R312C
PHT30C
T301
RLY30D
C307D 0.01
C308D 0.01
R314D 220
D305D
R316D 10K
Q304D
R310D 47K
D307D R308D 12K
D308D
R307D
C304D
R306D 1K
PC300D
R305D 33
R304D 22
Q302D
R303D 6.8K
C303D
Q303D
D302D
Q301D
R301D 22
R300D 33
R302D 6.8K
Q300D
C302D 50V 2.2
C301D 25V 3.3
+12
D310D
T300D
CNA
35 R
10 T
36 H
11 L
37
12
L300D
ZNR30D
ZNR31D
L301D
D312D
D311D
C327D 470P
C328D 470P
BELL G
R311D C306D
R312D
PHT30D
RLY30E
C307E 0.01
C308E 0.01
R314E 220
D305E
R316E 10K
Q304E
R310E 47K
D307E R308E 12K
D308E
R307E
C304E
R306E 1K
PC300E
R305E 33
R304E 22
Q302E
R303E 6.8K
C303E
Q303E
D302E
Q301E
R301E 22
R300E 33
R302E 6.8K
Q300E
C302E 50V 2.2
C301E 25V 3.3
+12
D310E
T300E
CNA
38 R
13 T
39 H
14 L
40
15
L300E
ZNR30E
ZNR31E
L301E
D312E
D311E
C327E 470P
C328E 470P
BELL G
R311E C306E
R312E
PHT30E
E
F
G
H
I
J
K
L


BELL
BELL
BELL
BELL G
BELL G
RLY30H
C307H 0.01
C308H 0.01
R314H 220
D305H
R305H 56
R304H 22
Q302H
R303H 6.8K
C303H 25V 8.2
Q303H
PC300H
Q304H
R308H 120K
D307H
R307H
R306H 1K
R316H 10K
R310H 47K
D308H
C304H
5074.7 15K
D312H
D311H
L300H
ZNR30H
ZNR31H
L301H
C328H 470P
C327H 470P
Q301H
R302H 6.8K
C302H 50V 2.2
CNA
44 R
19 T
45 H
20 L
46
21
47 R
22 T
48 H
23 L
49
24
+12
T300C
D301C D300C
VAG
R313C 2.2K
R315C
Q305C
D309C
C305C 50V 1
R309C 100
PHT30C
T301C
Q306C
HI2
EXT3
DI2
DO2
RLY30C
D310C
Q307C
IC301
R02
T300D
D301D D300D
HI3
EXT4
R313D
R315D
Q305D
D309D
C305D
R309D
PHT30D
T301D
Q306D
DI3
DO3
RLY30D
D310D
Q307D
R03
T300E
D301E D300E
HI4
EXT5
R313E
R315E
Q305E
D309E
C305E
R309E
PHT30E
T301E
Q306E
DI4
DO4
RLY30E
D310E
Q307E
IC302
R04
+5
D313
C310 50V10
0.022 C313
Z300
4.7K X 8
Z301
1K X 8
R00
R01
R02
R03
R04
R05
R06
R07
HI0
HI1
HI2
HI3
HI4
HI5
HI6
HI7
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
I/O
IC300
RST
CMB
TXB
RXB
BR0
BR1
BR2
BR3
BRC
PS0
PS1
XIX
X0X
XI5 X05
TXT
NC
C309 220p
R317 10K
C325 22P
C326 22P
X300
R326 1M
R331 1K
C317 0.01
R323 10K
R327 1K
R328 1K
R329 1K
R330 1K
VSS
IC303
B1 B2 B3 B4 B5 B6 B7 B8
A1 A2 A3 A4 A5 A6 A7 A8
GND
BUFFER
IC304
IC305
WR
RD
CS
A0
A1
A2
A3


VRG
R313G
2.2K
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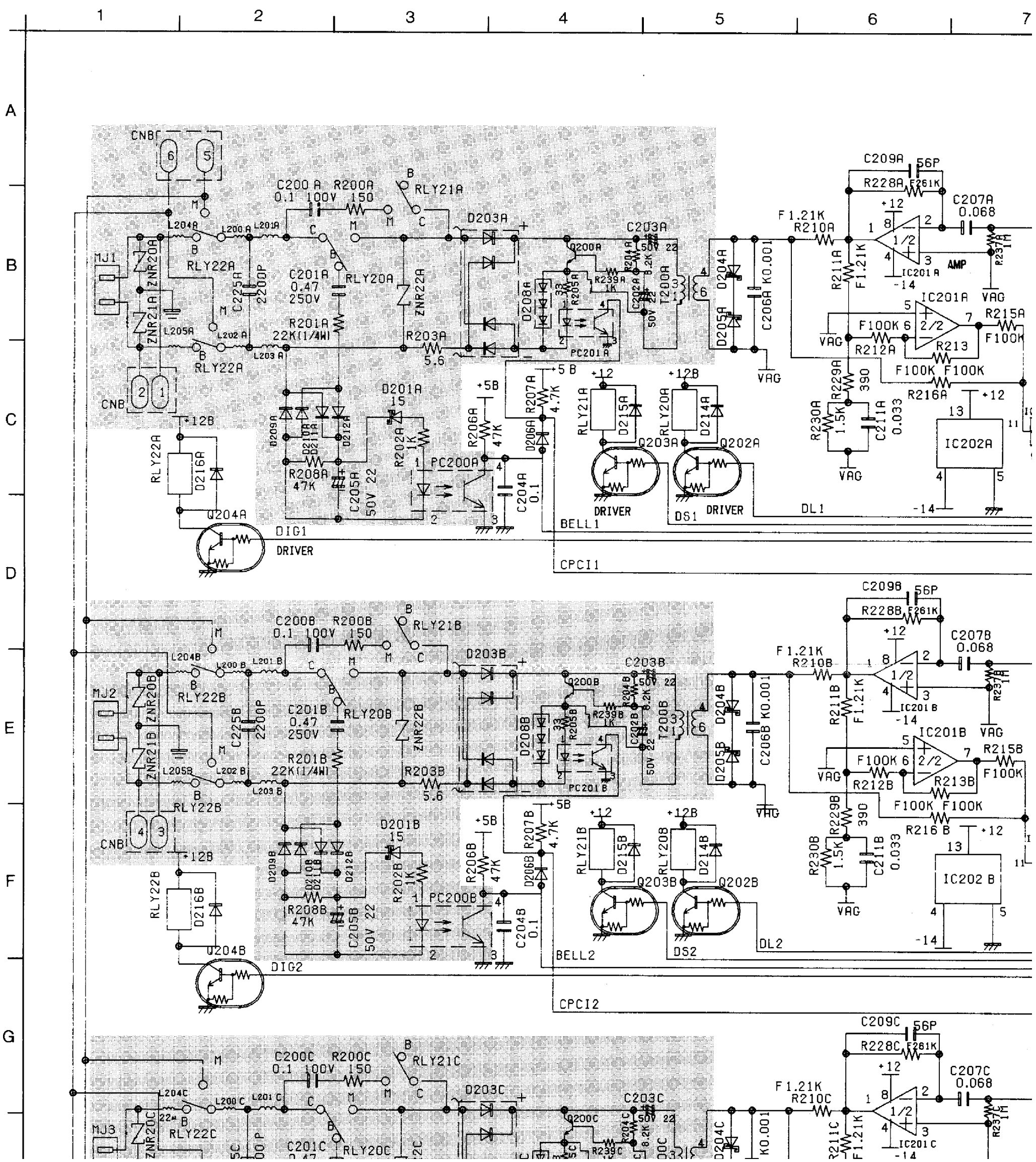
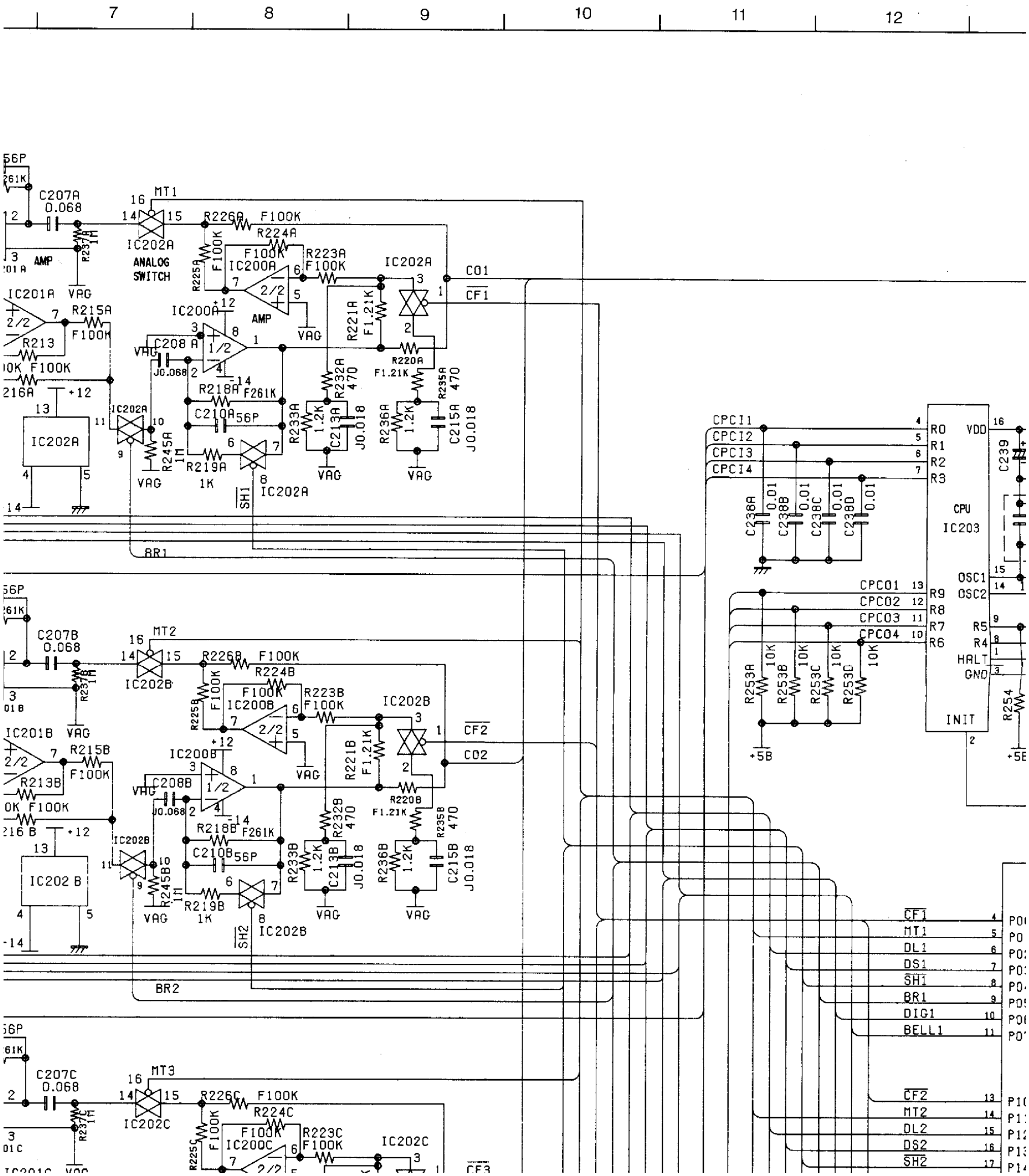
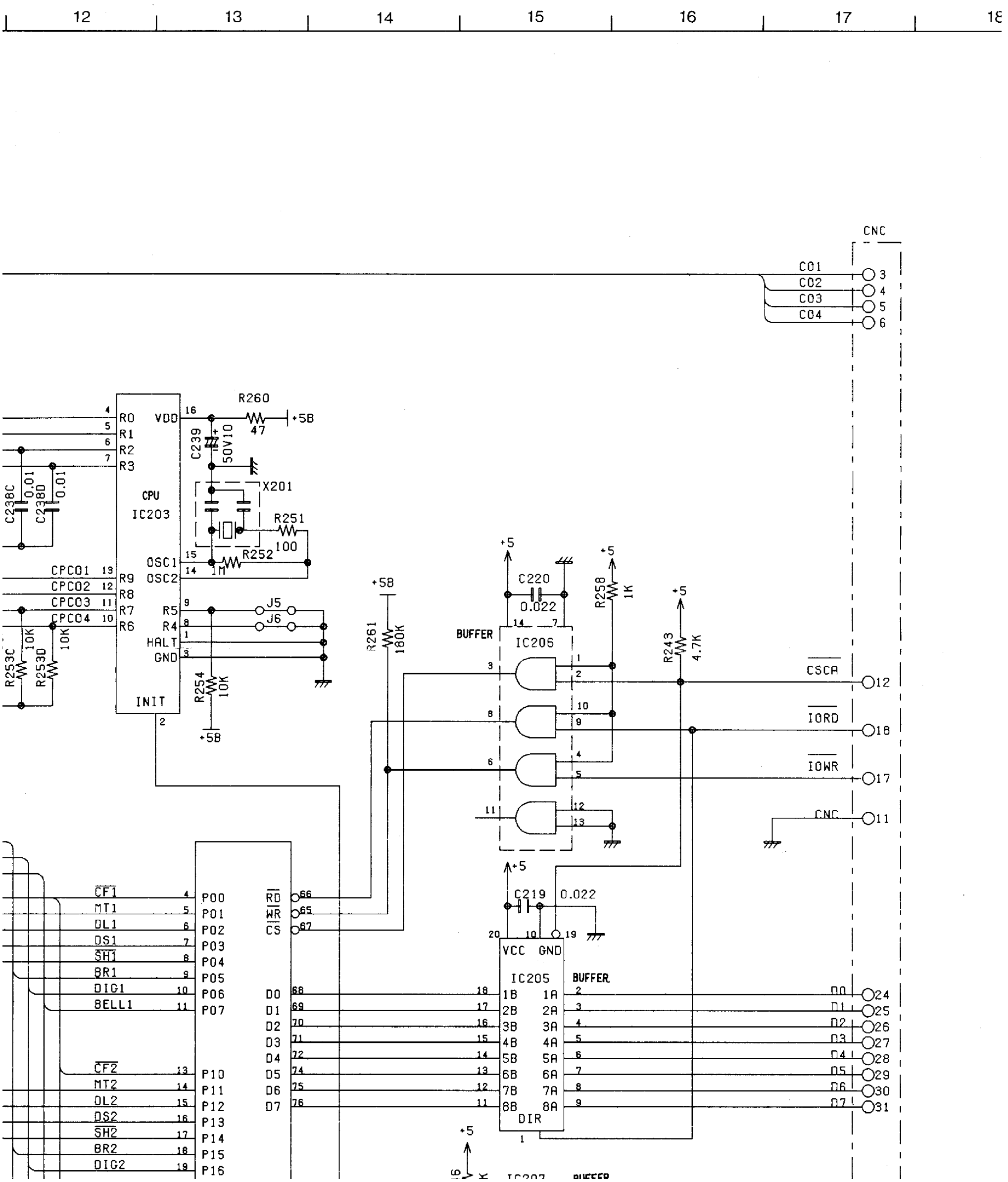
Q305G
D309G
C305G
50V 1
R311G C306G
120
R312G
120
PHT30G
R309G
100
Q306G
T301G
-16
DI6
DO6
BELL G
BELL
Q312H
RLY31A
D314A
PDRLY1
15
+12BPD
SWITCHING
Q311B
SWITCHING
Q312B
RLY31B
D314B
PDRLY2
16
-14BPD
+12
D310H
RLY30H
Q307H
IC302
RO
3
1
2
RO7
HI7
EXT8
D302H
Q302H
Q301H
R301H
22
R300H
33
R303H
6.8K
R302H
6.8K
Q300H
C302H
50V 2.2
C301H
25V 3.3
+12
T300H
D301H
D300H
VRG
R313H
2.2K
R315H
4.7K
Q305H
D309H
C305H
50V 1
R311H C306H
120
R312H
120
PHT30H
R309H
100
Q306H
T301H
-16
DI7
DO7
BELL G
+5
Z302
10K X 4
J1
J2
J3
J4
D0
D1
D2
D3
IC305
BUFFER
R321
4.7K
R319
4.7K
D0
D1
D2
D3
D4
D5
D6
D7
CSLB
A0
A1
A2
A3
IO WR
IO RD
CSLA
RST
BR0
BR1
BR2
BR3
24
25
26
27
28
29
30
31
2
20
21
22
23
17
18
1
19
11
12
13
14
IC304
BUFFER
IOWR
IORD
CSLA
IC305
BUFFER
IC305
IC304


CNB
MJ1
ZNR20A
ZNR21A
L204A
L200A
L201A
C200A 0.1 100V
R200A 150
RLY21A
D203A
C203A
Q200A
R204A 8.2K
R239A 1K
R205A 33
C202A 22
T200A
D204A
D205A
C206A K0.001
F1.21K R210A
R211A F1.21K
C209A 56P
R228A F261K
C207A 0.068
R237A 1M
IC201A
AMP
VAG
C225A 2200P
C201A 0.47 250V
RLY20A
RLY22A
ZNR22A
L205A
L202A
L203A
R201A 22K(1/4W)
R203A 5.6
D208A
PC201A
F100K
R215A
R212A
R213
F100K
R216A
R229A 390
R230A 1.5K
C211A 0.033
IC202A
+12B
+5B
D201A 15
D209A
D210A
D211A
D212A
R202A 1K
PC200A
R206A 47K
R207A 4.7K
D206A
C204A 0.1
R208A 47K
C205A 50V 22
RLY21A
RLY20A
D215A
D214A
Q203A
Q202A
DRIVER
DS1
DL1
BELL1
CPCI1
RLY22A
D216A
Q204A
DIG1
CNB
MJ2
ZNR20B
ZNR21B
L204B
L200B
L201B
C200B 0.1 100V
R200B 150
RLY21B
D203B
C203B
Q200B
R204B 8.2K
R239B 1K
R205B 33
C202B 22
T200B
D204B
D205B
C206B K0.001
F1.21K R210B
R211B F1.21K
C209B 56P
R228B F261K
C207B 0.068
R237B 1M
IC201B
VAG
C225B 2200P
C201B 0.47 250V
RLY20B
RLY22B
ZNR22B
L205B
L202B
L203B
R201B 22K(1/4W)
R203B 5.6
D208B
PC201B
F100K
R215B
R212B
R213B
F100K
R216B
R229B 390
R230B 1.5K
C211B 0.033
IC202B
+12B
+5B
D201B 15
D209B
D210B
D211B
D212B
R202B 1K
PC200B
R206B 47K
R207B 4.7K
D206B
C204B 0.1
R208B 47K
C205B 50V 22
RLY21B
RLY20B
D215B
D214B
Q203B
Q202B
DRIVER
DS2
DL2
BELL2
CPCI2
RLY22B
D216B
Q204B
DIG2
CNB
MJ3
ZNR20C
ZNR21C
L204C
L200C
L201C
C200C 0.1 100V
R200C 150
RLY21C
D203C
C203C
Q200C
R204C 8.2K
R239C
D204C
KO.001
F1.21K R210C
R211C F1.21K
C209C 56P
R228C F261K
C207C 0.068
R237C 1M
IC201C
C201C
RLY20C
RLY22C

SCHEMATIC DIAGRAM (CO-1)




12
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16
17
18
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C01
C02
C03
C04
3
4
5
6
R0
R1
R2
R3
R4
R5
R6
R7
R8
R9
VDD
OSC1
OSC2
HALT
GND
INIT
CPU
IC203
R260
47
+5B
C239
1M
50V10
X201
R251
100
R252
C238C
0.01
C238D
0.01
CPC01
CPC02
CPC03
CPC04
R253C
10K
R253D
10K
J5
J6
R254
10K
+5B
R261
180K
+5
C220
0.022
BUFFER
IC206
R258
1K
R243
4.7K
CSCA
IORD
IOWR
CNC
12
18
17
11
C219
0.022
VCC
GND
IC205
BUFFER
DIR
1A
2A
3A
4A
5A
6A
7A
8A
1B
2B
3B
4B
5B
6B
7B
8B
D0
D1
D2
D3
D4
D5
D6
D7
24
25
26
27
28
29
30
31
RD
WR
CS
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
P00
P01
P02
P03
P04
P05
P06
P07
P10
P11
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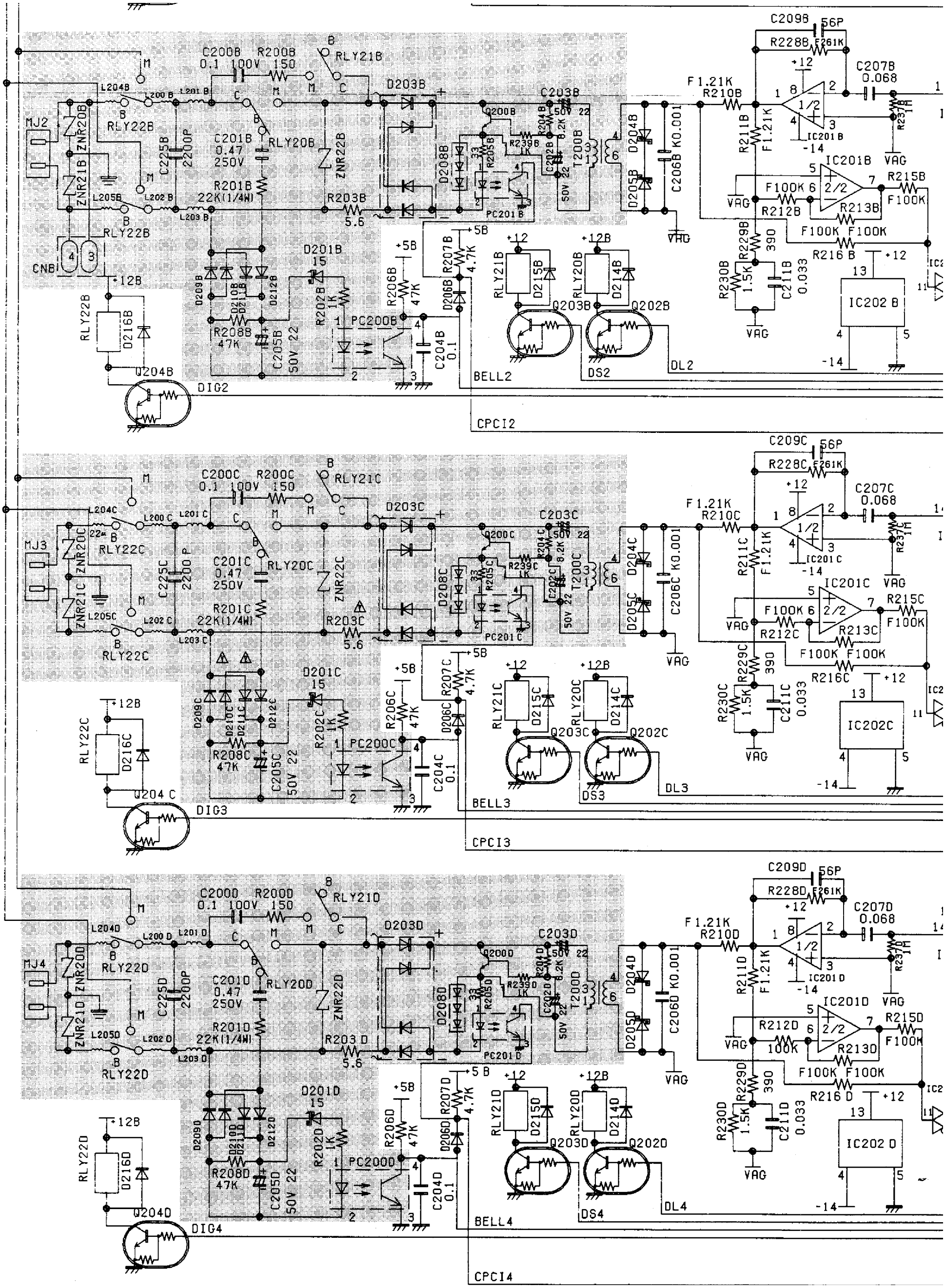
P13
P14
P15
P16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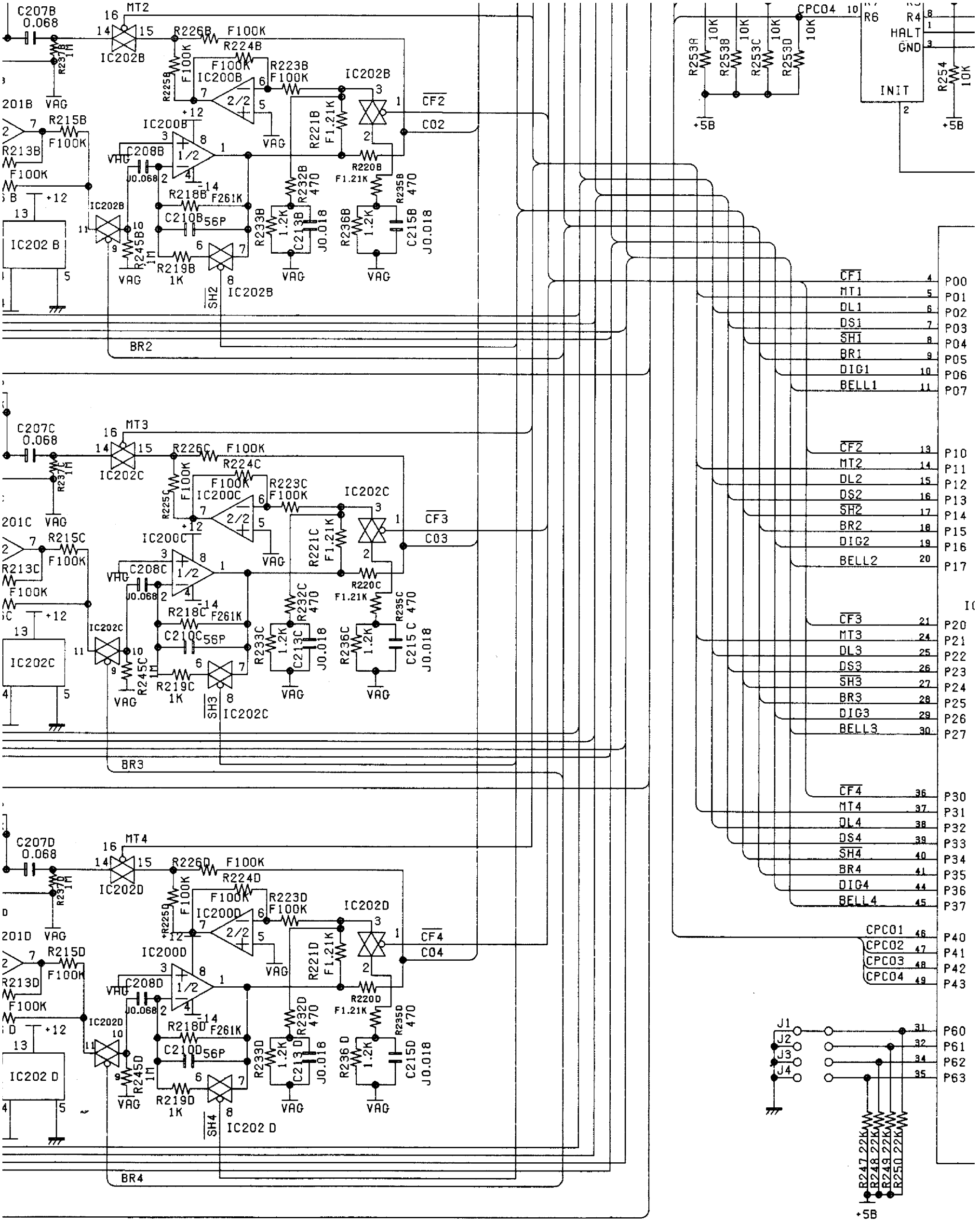
D203B
C203B
C209B 56P
R228B F261K
C207B 0.068
F1.21K R210B
R211B F1.21K
IC201B
VAG
R215B F100K
R213B
R212B
R216 B
R229B 390
R230B 1.5K
C211B 0.033
IC202 B
L204B L200 B L201 B
RLY22B RLY20B
MJ2 ZNR20B ZNR21B ZNR22B
C225B 2200P
C201B 0.47 250V
R201B 22K(1/4W)
R203B 5.6
L205B L202 B L203 B
PC201B
D208B R205B R239B R204B 8.2K
C202B 22 50V
T200B
D204B D205B
C206B K0.001
CNB
+12B
D201B 15
D209B D210B D211B D212B
R208B 47K
C205B 50V 22
R202B 1K
PC200B
R206B 47K
R207B 4.7K
D206B
+5B
C204B 0.1
RLY21B RLY20B
D215B D214B
Q203B Q202B
RLY22B D216B Q204B
DIG2
BELL2
DS2
DL2
CPCI2
C209C 56P
R228C F261K
C207C 0.068
F1.21K R210C
R211C F1.21K
IC201C
VAG
R215C F100K
R213C
R212C
R216C
R229C 390
R230C 1.5K
C211C 0.033
IC202C
L204C L200 C L201 C
RLY22C RLY20C
MJ3 ZNR20C ZNR21C ZNR22C
C225C 2200P
C201C 0.47 250V
R201C 22K(1/4W)
R203C 5.6
L205C L202 C L203 C
PC201C
D208C R205C R239C R204C 8.2K
C202C 22 50V
T200C
D204C D205C
C206C K0.001
D201C 15
D209C D210C D211C D212C
R208C 47K
C205C 50V 22
R202C 1K
PC200C
R206C 47K
R207C 4.7K
D206C
+5B
C204C 0.1
RLY21C RLY20C
D215C D214C
Q203C Q202C
RLY22C D216C Q204 C
DIG3
BELL3
DS3
DL3
CPCI3
C209D 56P
R228D F261K
C207D 0.068
F1.21K R210D
R211D F1.21K
IC201D
VAG
R215D F100K
R213D
R212D 100K
R216 D
R229D 390
R230D 1.5K
C211D 0.033
IC202 D
L204D L200 D L201 D
RLY22D RLY20D
MJ4 ZNR20D ZNR21D ZNR22D
C225D 2200P
C201D 0.47 250V
R201D 22K(1/4W)
R203 D 5.6
L205D L202 D L203 D
PC201D
D208D R205D R239D R204D 8.2K
C202D 22 50V
T200D
D204D D205D
C206D K0.001
D201D 15
D209D D210D D211D D212D
R208D 47K
C205D 50V 22
R202D 1K
PC200D
R206D 47K
R207D 4.7K
D206D
+5 B
C204D 0.1
RLY21D RLY20D
D215D D214D
Q203D Q202D
RLY22D D216D Q204D
DIG4
BELL4
DS4
DL4
CPCI4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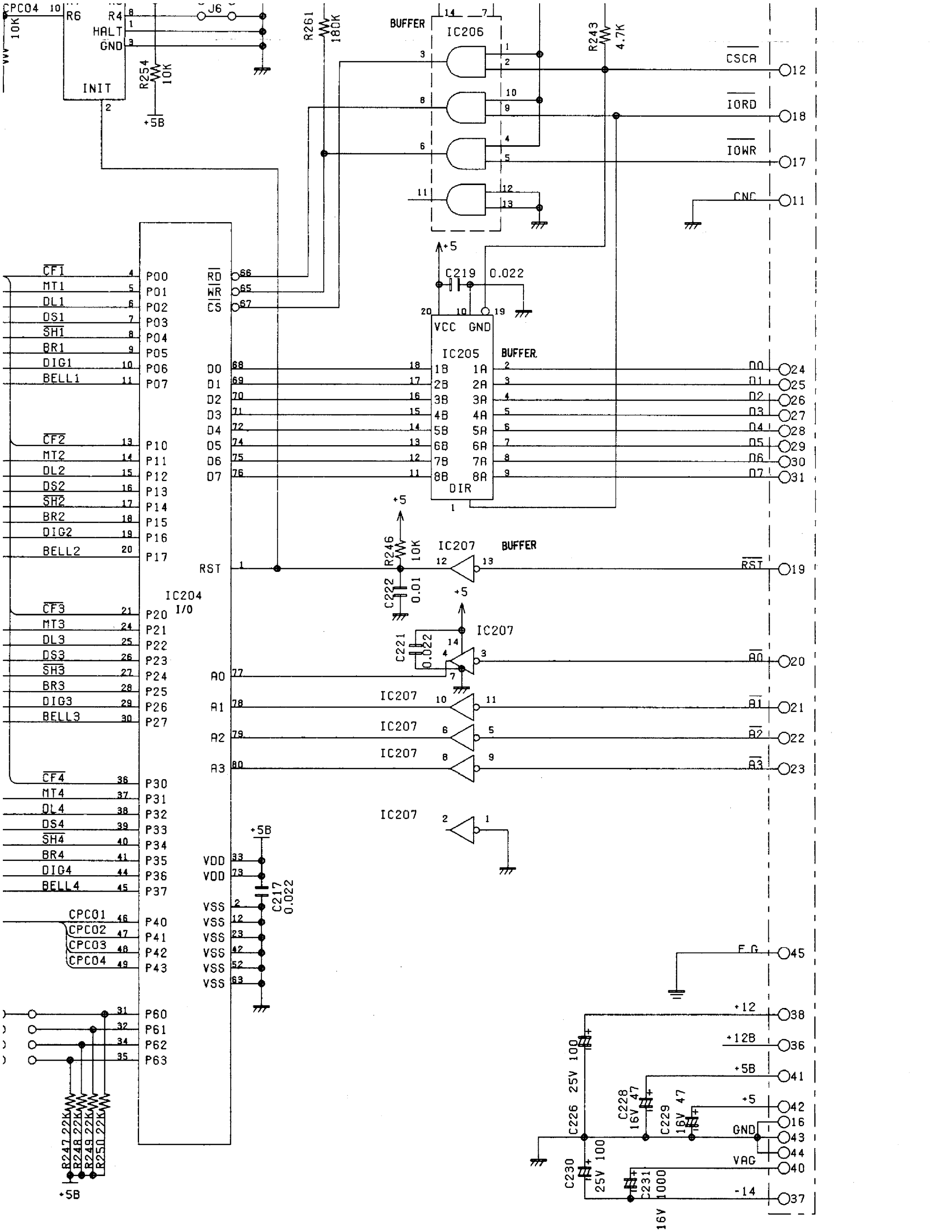
MT2
IC202B
R226B F100K
R224B
R223B F100K
IC200B
IC202B
CF2
CO2
R221B F1.21K
R220B F1.21K
C208B
R218B F261K
C210B 56P
R233B 1.2K
R232B 470
C213B J0.018
R236B 1.2K
R235B 470
C215B J0.018
R245B 1M
R219B 1K
SH2
BR2
IC202 B
R215B F100K
R213B F100K
VAG
+12
+5B
CPC04
R253A 10K
R253B 10K
R253C 10K
R253D 10K
R6
R4
HALT
GND
INIT
R254 10K
C207C 0.068
MT3
IC202C
R226C F100K
R224C
R223C F100K
IC200C
CF3
CO3
R221C F1.21K
R220C F1.21K
C208C
R218C F261K
C210C 56P
R233C 1.2K
R232C 470
C213C J0.018
R236C 1.2K
R235C 470
C215C J0.018
R245C 1M
R219C 1K
SH3
BR3
IC202C
R215C F100K
R213C F100K
C207D 0.068
MT4
IC202D
R226D F100K
R224D
R223D F100K
IC200D
CF4
CO4
R221D F1.21K
R220D F1.21K
C208D
R218D F261K
C210D 56P
R233D 1.2K
R232D 470
C213D J0.018
R236D 1.2K
R235D 470
C215D J0.018
R245D 1M
R219D 1K
SH4
BR4
IC202 D
R215D F100K
R213D F100K
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
P00
P01
P02
P03
P04
P05
P06
P07
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
BELL2
P10
P11
P12
P13
P14
P15
P16
P17
CF3
MT3
DL3
DS3
SH3
BR3
DIG3
BELL3
P20
P21
P22
P23
P24
P25
P26
P27
CF4
MT4
DL4
DS4
SH4
BR4
DIG4
BELL4
P30
P31
P32
P33
P34
P35
P36
P37
CPC01
CPC02
CPC03
CPC04
P40
P41
P42
P43
J1
J2
J3
J4
P60
P61
P62
P63
R247 22K
R248 22K
R249 22K
R250 22K
+5B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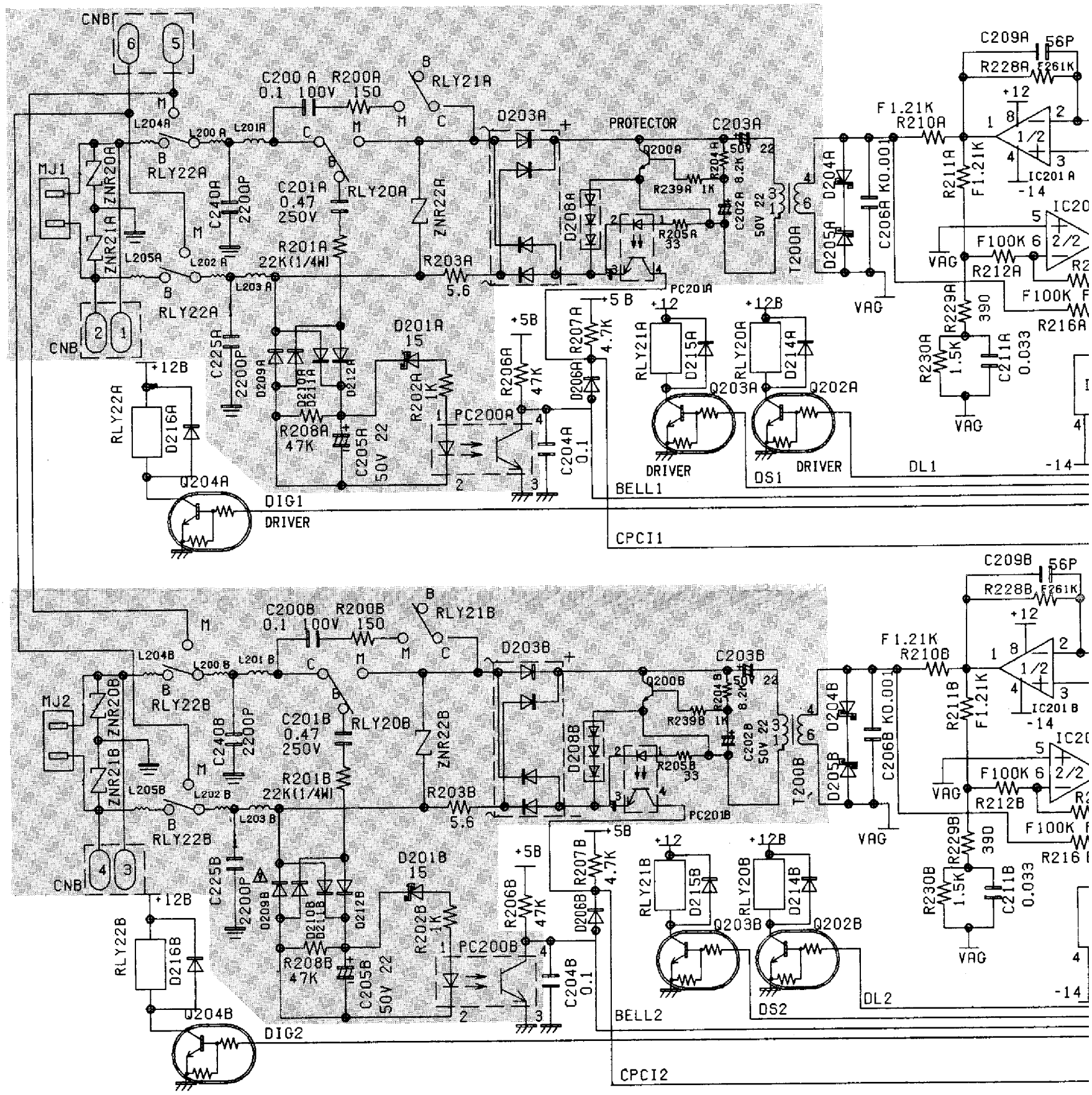
10K
R6
R4
HALT
GND
INIT
J6
R254 10K
+5B
R261 180K
BUFFER
IC206
R243 4.7K
CSCA
IORD
IOWR
CNC
+5
C219 0.022
VCC GND
IC205
BUFFER.
DIR
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
BELL2
CF3
MT3
DL3
DS3
SH3
BR3
DIG3
BELL3
CF4
MT4
DL4
DS4
SH4
BR4
DIG4
BELL4
CPC01
CPC02
CPC03
CPC04
IC204
I/O
P00
P01
P02
P03
P04
P05
P06
P07
P10
P11
P12
P13
P14
P15
P16
P17
P20
P21
P22
P23
P24
P25
P26
P27
P30
P31
P32
P33
P34
P35
P36
P37
P40
P41
P42
P43
P60
P61
P62
P63
RD
WR
CS
D0
D1
D2
D3
D4
D5
D6
D7
RST
A0
A1
A2
A3
R246 10K
C222 0.01
C221 0.022
IC207
BUFFER
VDD
VSS
C217 0.022
R247 22K
R248 22K
R249 22K
R250 22K
F.G
+12
+12B
+5B
+5
GND
VAG
-14
C226 25V 100
C230 25V 100
C228 16V 47
C229 16V 47
C231 16V 1000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C200A R200A
0.1 100V 150
RLY21A
D203A
PROTECTOR
C203A
L204A
L200A
L201A
RLY22A
MJ1
ZNR20A
ZNR21A
C240A
220GP
C201A
0.47
250V
RLY20A
ZNR22A
L205A
L202A
L203A
R201A
22K(1/4W)
R203A
5.6
D208A
Q200A
R204A
8.2K
R239A 1K
R205A
33
C202A
50V 22
T200A
D204A
D205A
C206A K0.001
F1.21K
R210A
R211A
F1.21K
C209A 56P
R228A F261K
+12
IC201A
-14
VAG
R212A
F100K
R216A
R229A
390
R230A
1.5K
C211A
0.033
PC201A
+5B
R207A
4.7K
D201A
15
R202A
1K
PC200A
R206A
47K
D206A
C204A
0.1
C205A
50V 22
R208A
47K
C225A
2200P
D209A
D210A
D211A
D212A
RLY21A
D215A
RLY20A
D214A
Q203A
Q202A
DRIVER
DS1
DL1
BELL1
CPCI1
+12B
RLY22A
D216A
Q204A
DIG1
CNB
C200B R200B
0.1 100V 150
RLY21B
D203B
C203B
L204B
L200B
L201B
RLY22B
MJ2
ZNR20B
ZNR21B
C240B
220GP
C201B
0.47
250V
RLY20B
ZNR22B
L205B
L202B
L203B
R201B
22K(1/4W)
R203B
5.6
D208B
Q200B
R204B
8.2K
R239B 1K
R205B
33
C202B
50V 22
T200B
D204B
D205B
C206B K0.001
F1.21K
R210B
R211B
F1.21K
C209B 56P
R228B F261K
+12
IC201B
-14
VAG
R212B
F100K
R216B
R229B
390
R230B
1.5K
C211B
0.033
PC201B
+5B
R207B
4.7K
D201B
15
R202B
1K
PC200B
R206B
47K
D206B
C204B
0.1
C205B
50V 22
R208B
47K
C225B
2200P
D209B
D210B
D211B
D212B
RLY21B
D215B
RLY20B
D214B
Q203B
Q202B
DRIVER
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DL2
BELL2
CPCI2
+12B
RLY22B
D216B
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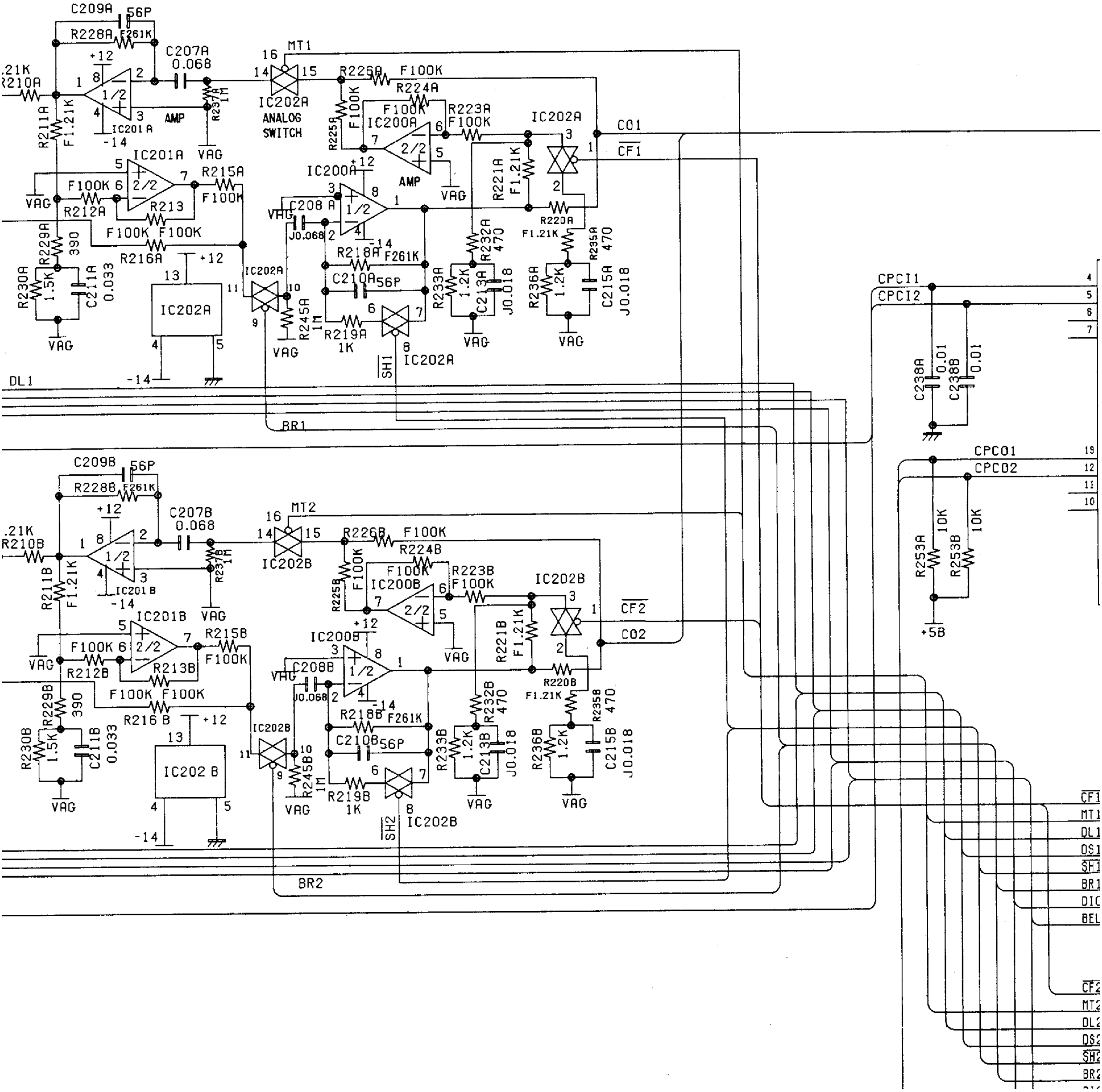
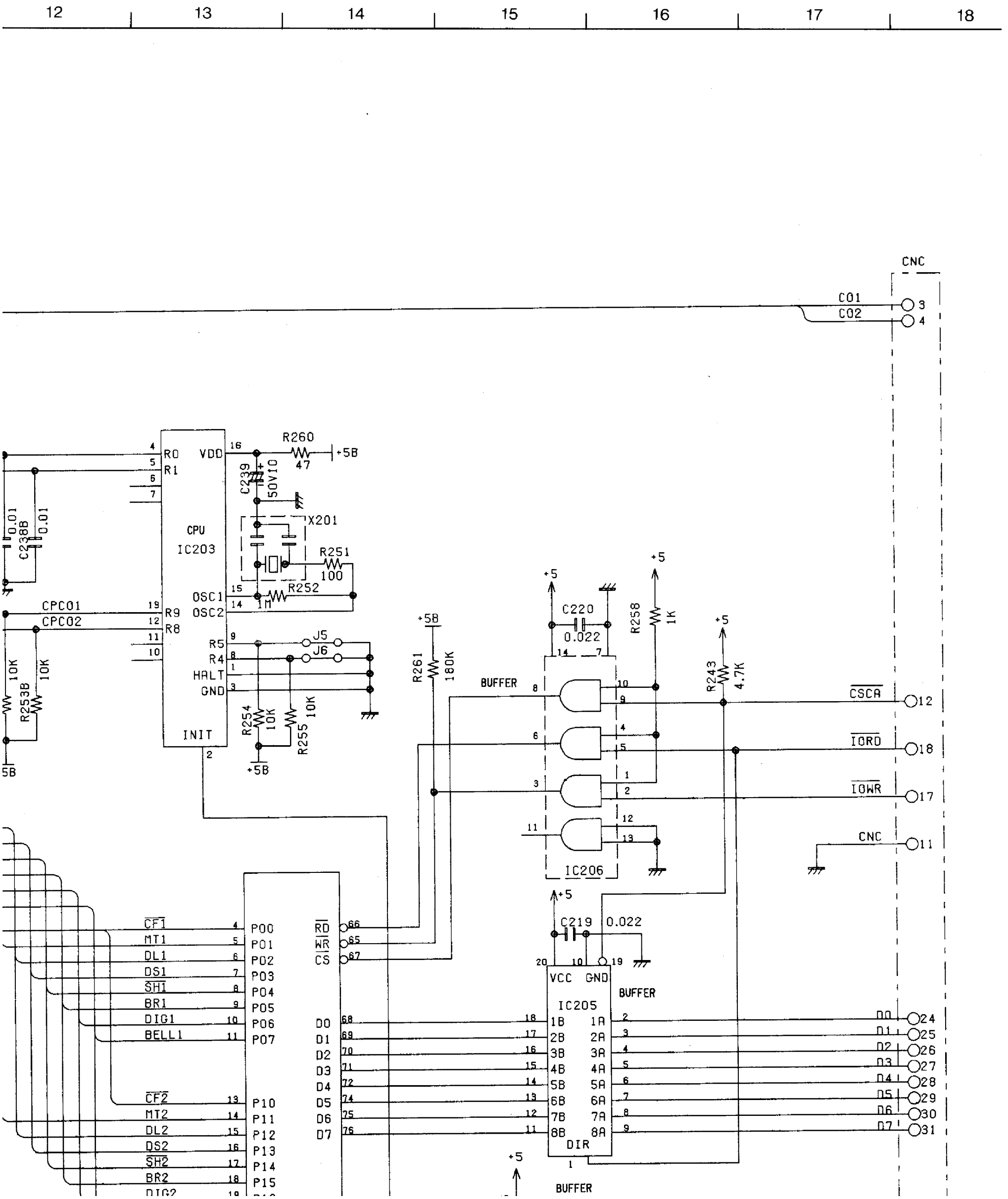
DIG2
CNB

SCHEMATIC DIAGRAM (CO-2)

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13
14
15
16
17
18
CNC
CO1
CO2
3
4
CPU
IC203
R0
R1
R9
R8
R5
R4
HALT
GND
INIT
VDD
OSC1
OSC2
R260
47
+5B
C239
50V10
X201
R251
100
R252
1M
C238B
0.01
C238A
0.01
CPC01
CPC02
10K
R253B
10K
5B
J5
J6
R254
10K
R255
10K
+5B
C220
0.022
R258
1K
+5
R261
180K
BUFFER
R243
4.7K
CSCA
IORD
IOWR
CNC
IC206
C219
0.022
VCC
GND
IC205
BUFFER
DIR
1B
2B
3B
4B
5B
6B
7B
8B
1A
2A
3A
4A
5A
6A
7A
8A
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
P00
P01
P02
P03
P04
P05
P06
P07
P10
P11
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WR
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D2
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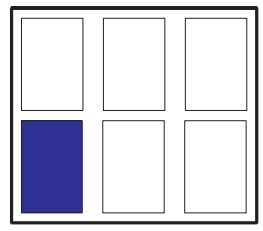
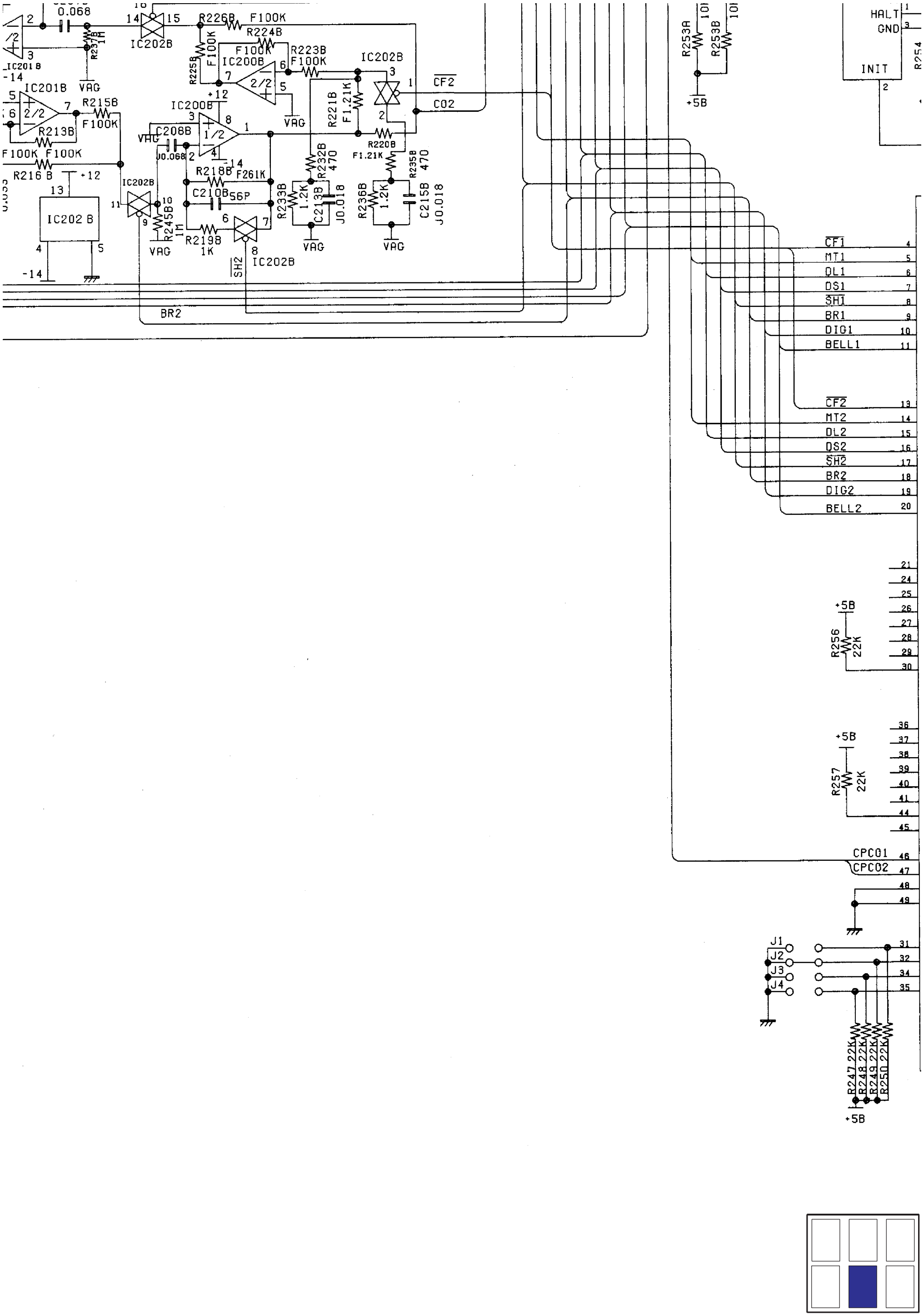
D6
D7

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IC202B
IC200B
IC202 B
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R224B
R225B F100K
R223B F100K
R221B F1.21K
R220B F1.21K
R215B F100K
R213B F100K
R216 B
C208B 0.068
R218B F261K
C210B 56P
R232B 470
R233B 1.2K
C213B J0.018
R235B 470
R236B 1.2K
C215B J0.018
R245B 1M
R219B 1K
R253A 10I
R253B 10I
R254
HALT
GND
INIT
+5B
+12
VAG
CF2
CO2
SH2
BR2
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
BELL2
R256 22K
R257 22K
CPC01
CPC02
J1
J2
J3
J4
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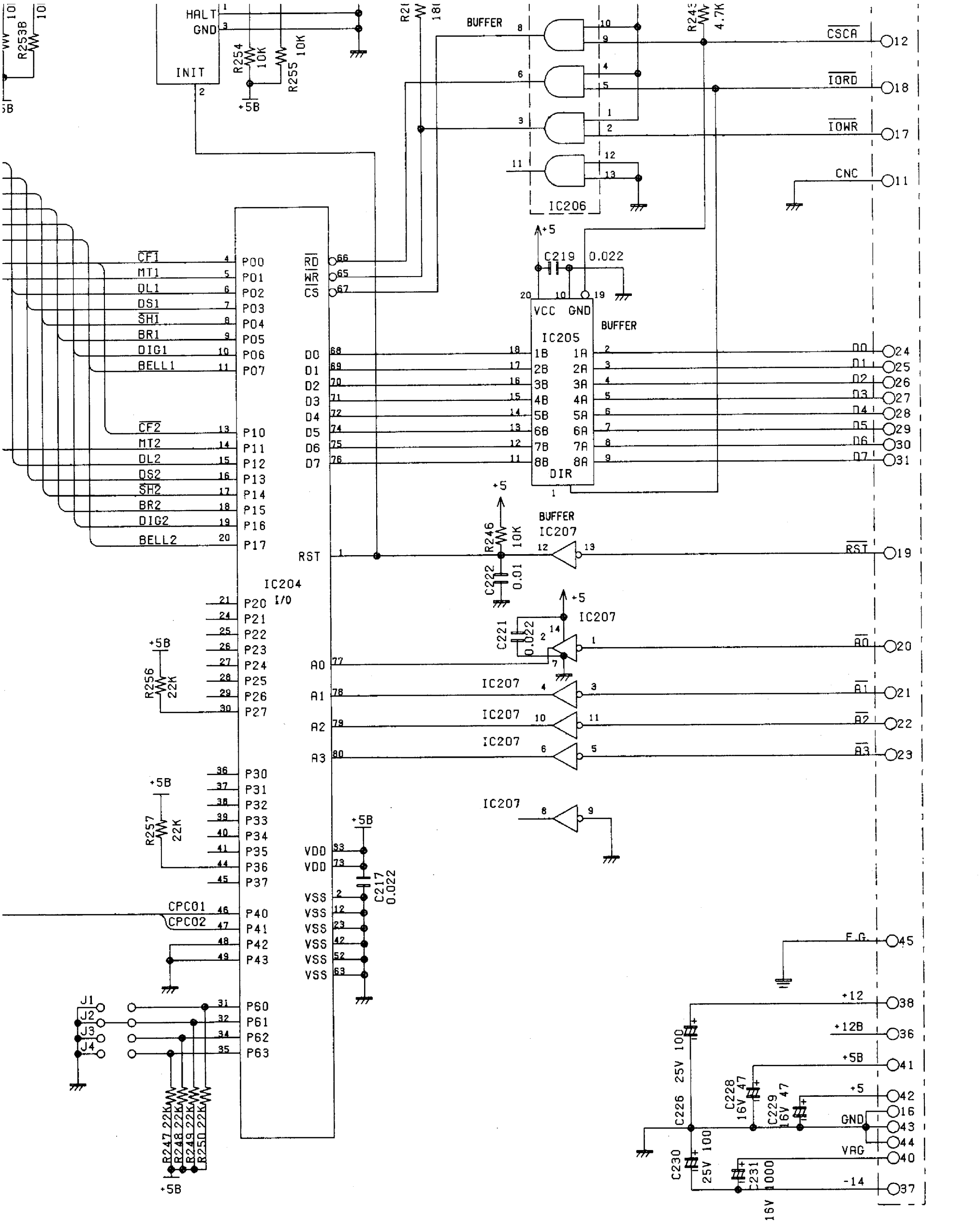
R248 22K
R249 22K
R250 22K


HALT
GND
INIT
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R255 10K
+5B
R253B
BUFFER
IC206
CSCA
IORD
IOWR
CNC
+5
C219 0.022
VCC GND
IC205
BUFFER
DIR
RD
WR
CS
CF1
MT1
DL1
DS1
SH1
BR1
DIG1
BELL1
CF2
MT2
DL2
DS2
SH2
BR2
DIG2
BELL2
P00
P01
P02
P03
P04
P05
P06
P07
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P11
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P13
P14
P15
P16
P17
D0
D1
D2
D3
D4
D5
D6
D7
1B 2B 3B 4B 5B 6B 7B 8B
1A 2A 3A 4A 5A 6A 7A 8A
R246 10K
C222 0.01
RST
IC204
I/O
IC207
C221 0.022
A0
A1
A2
A3
R256 22K
R257 22K
VDD
VSS
C217 0.022
CPC01
CPC02
J1
J2
J3
J4
R247 22K
R248 22K
R249 22K
R250 22K
F.G.
+12
+12B
+5B
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VRG
-14
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C230 25V 100
C231 16V 1000

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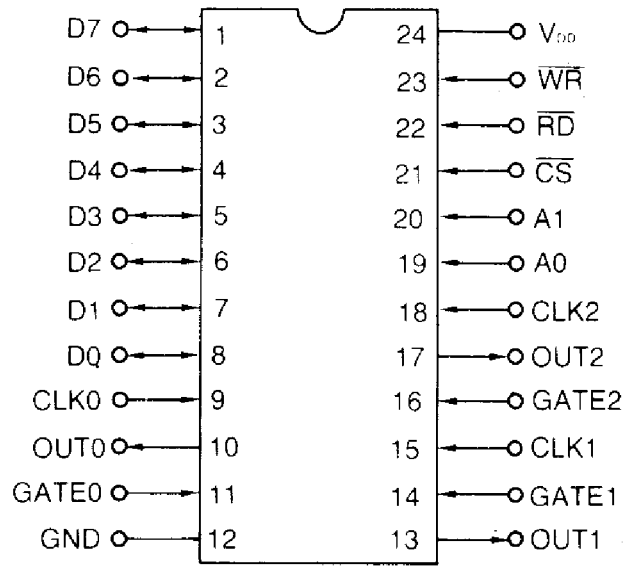

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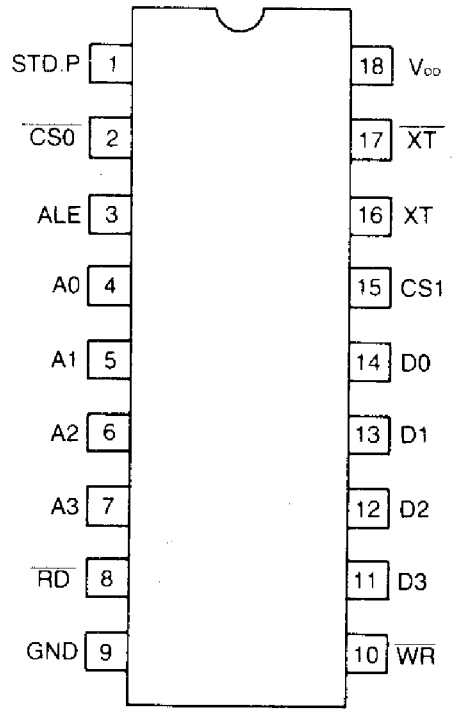
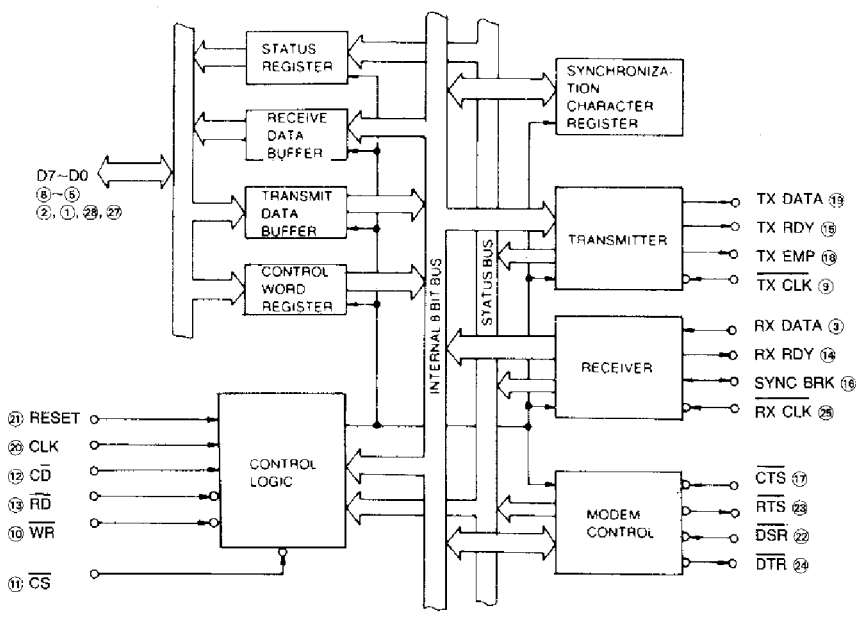
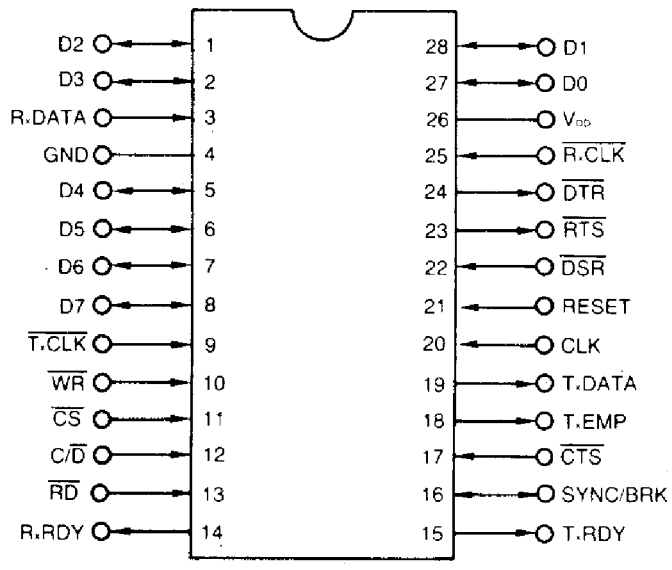
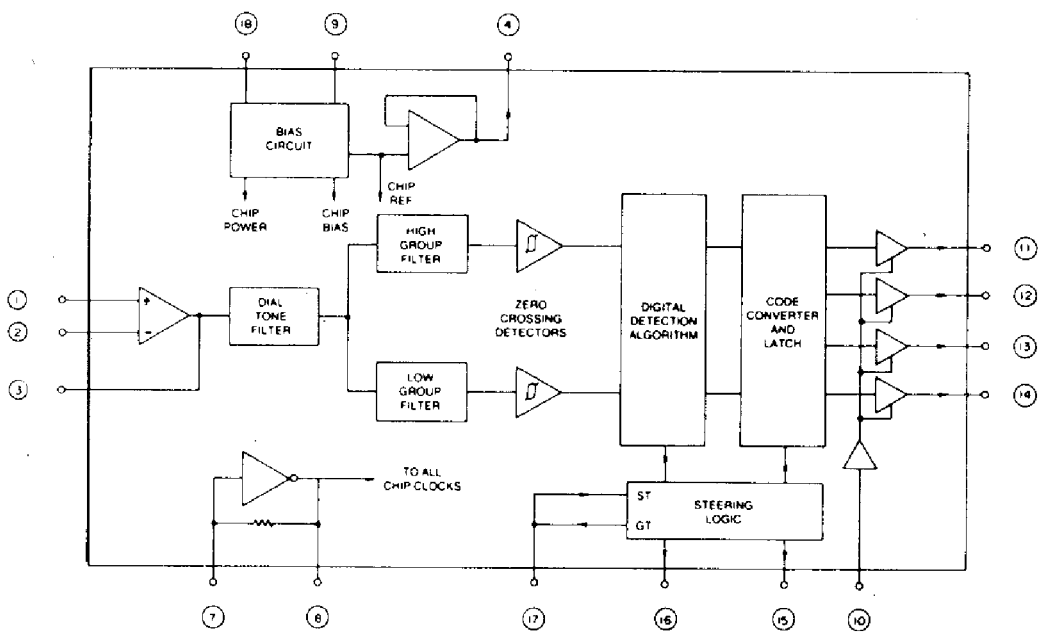


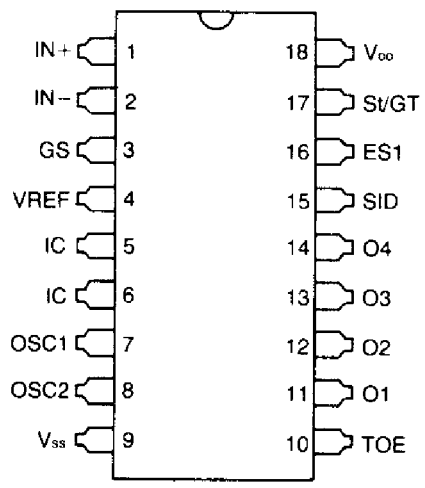
IC121 PQVIPD71051C



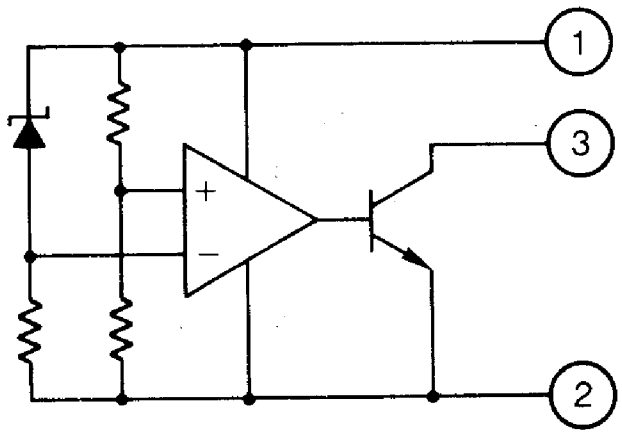


IC123, 124, 125 PQVIMT8870BC

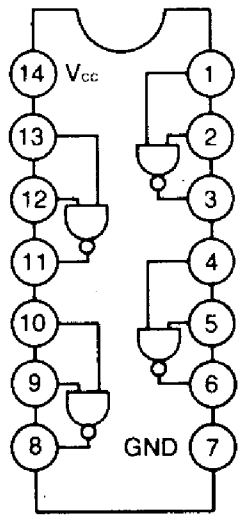




IC129, 141 PQVIPS520C



IC132 PQVIHD75188P



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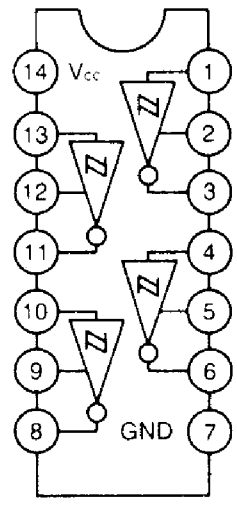
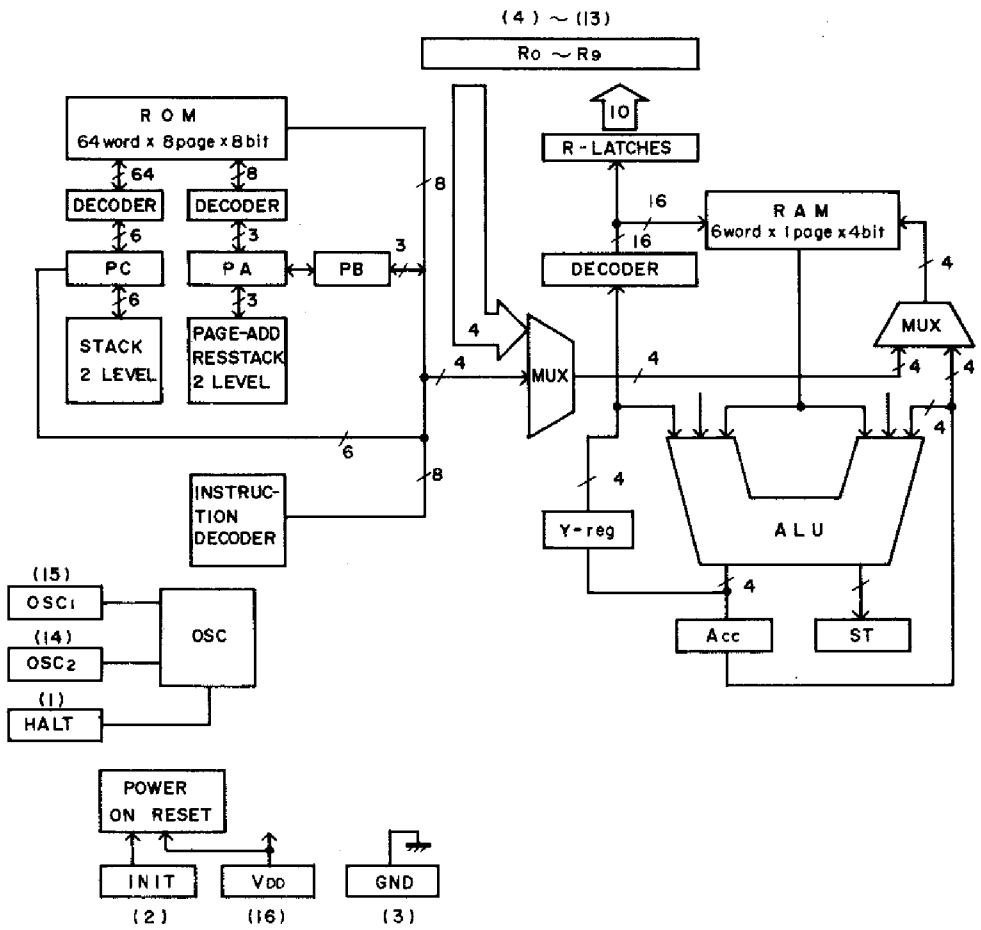
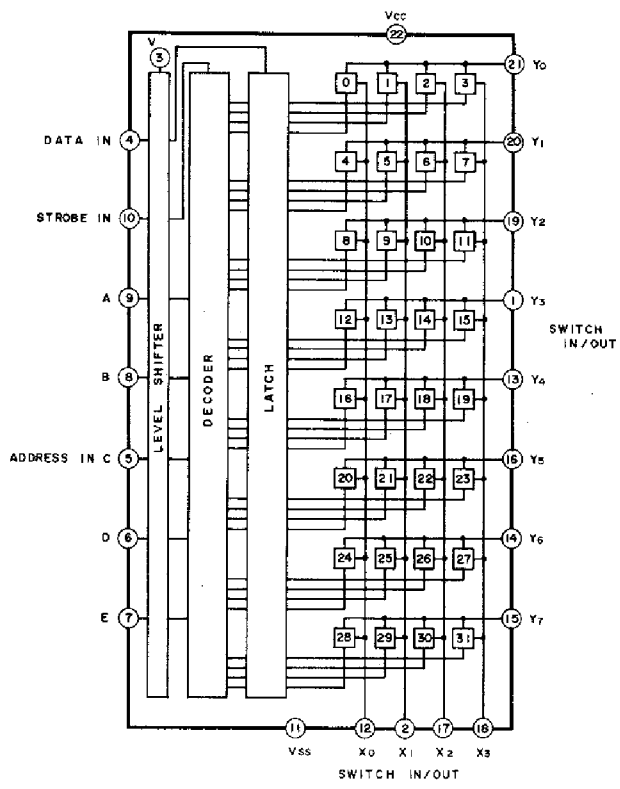


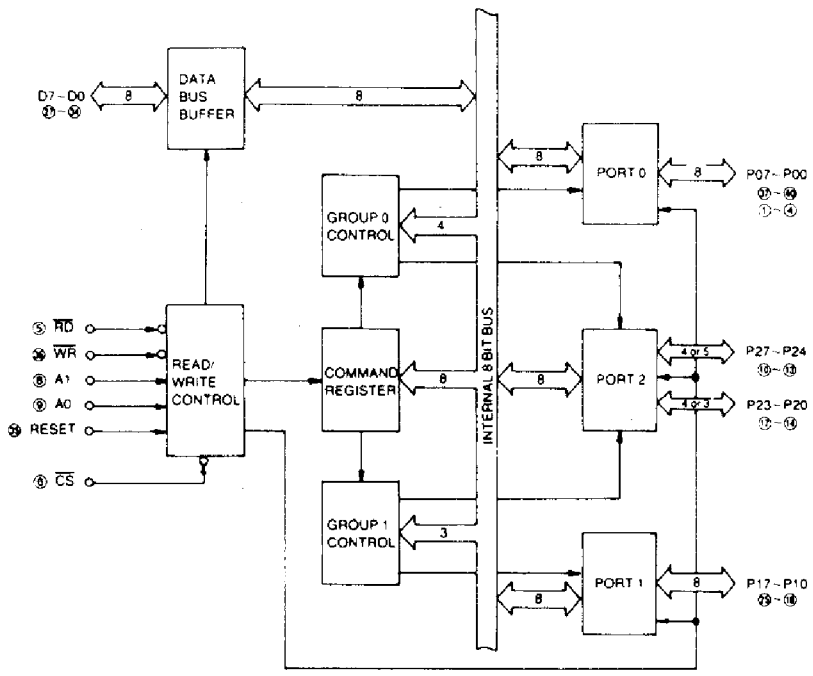
IC142 PQVIBU3140

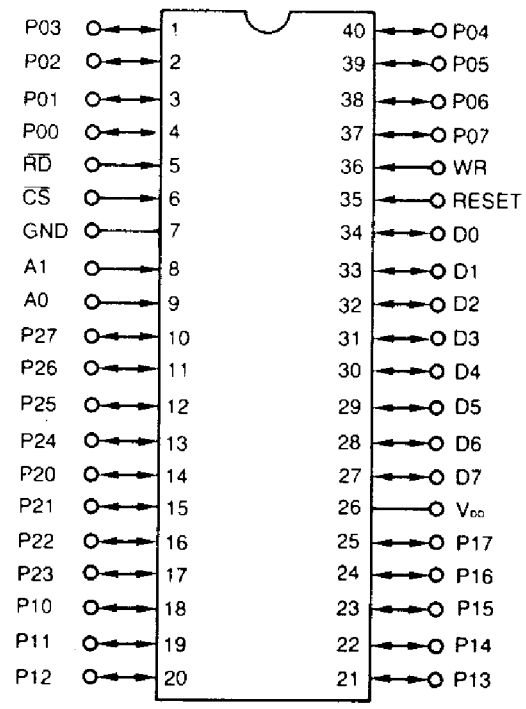


IC410-445 PQVIM402101P

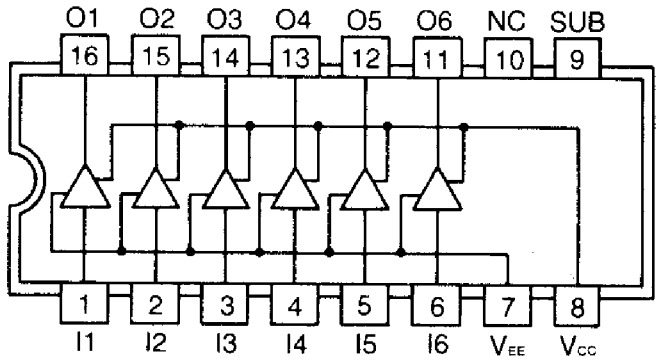


IC400 PQVIPD71055C

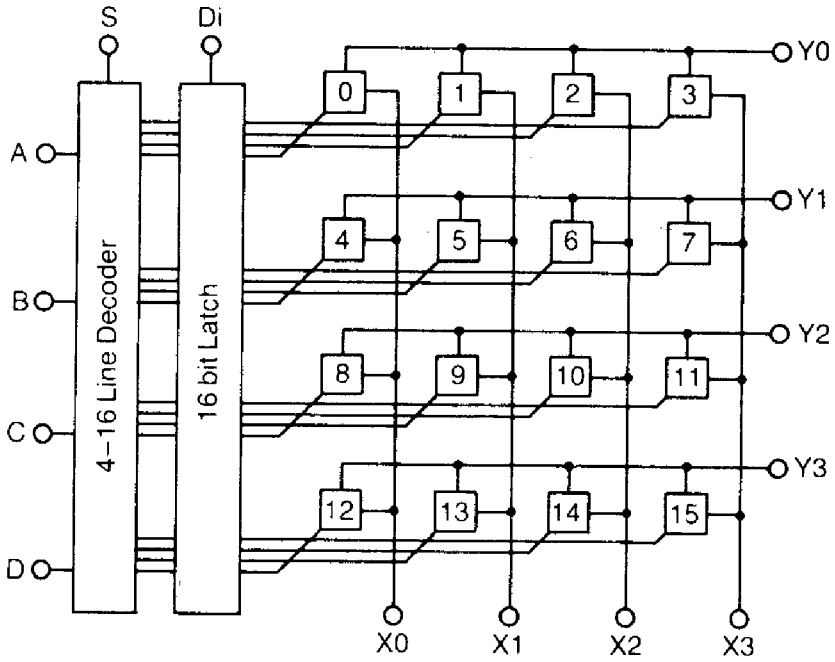


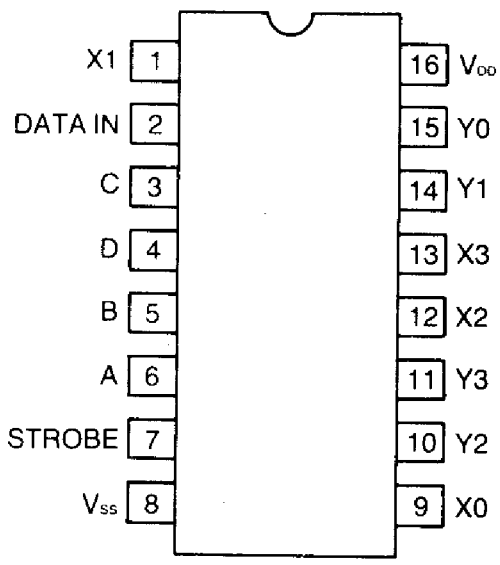


IC406-409 PQVITD62706P



IC447, 448, 450, 451, 453-456 PQVIPD22100C

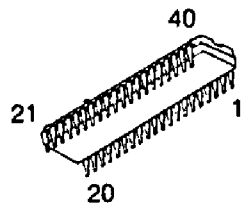
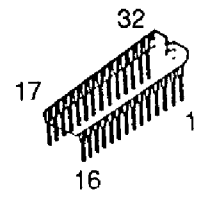
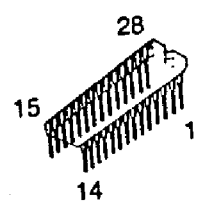
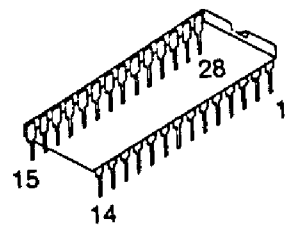
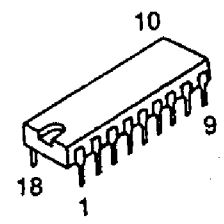
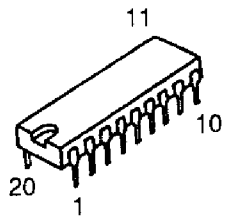
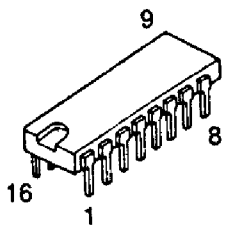
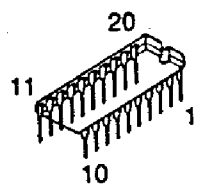
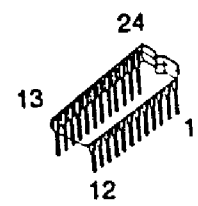
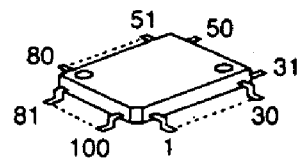
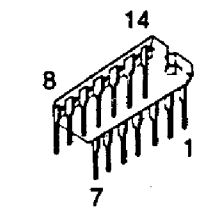
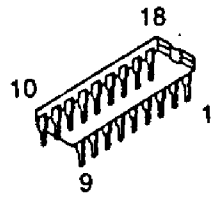
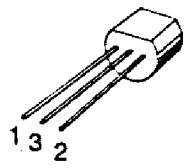
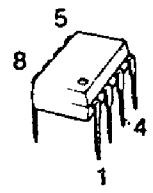
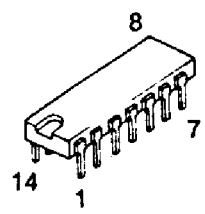
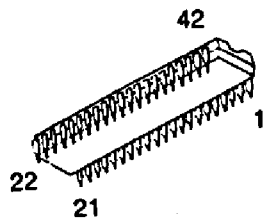
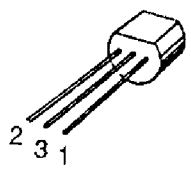
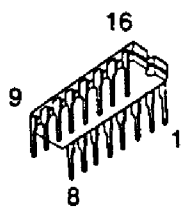
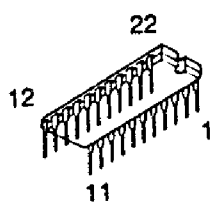
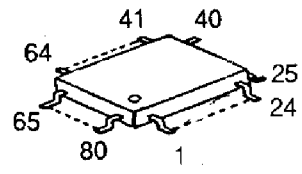
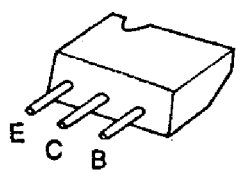
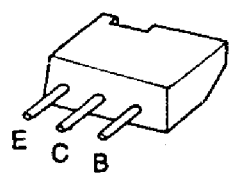
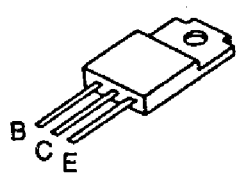
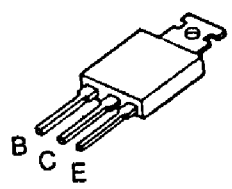
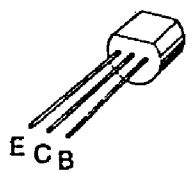
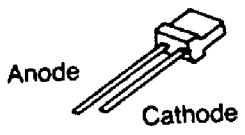
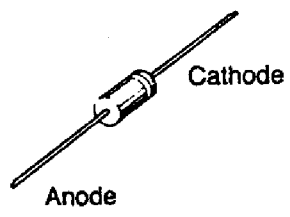
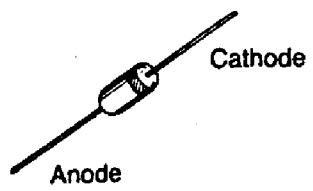
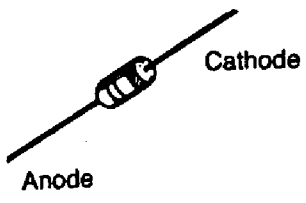
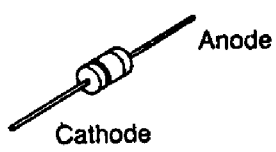
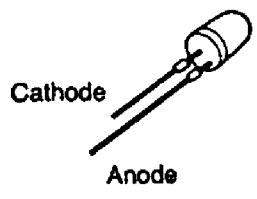




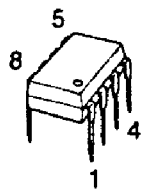
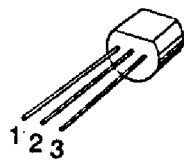
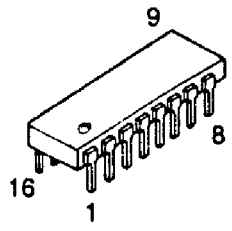
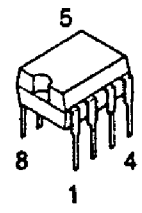
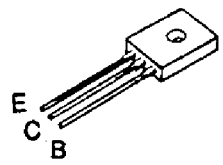
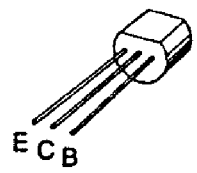
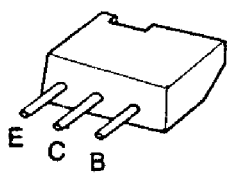
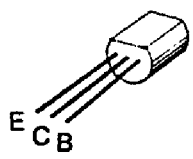
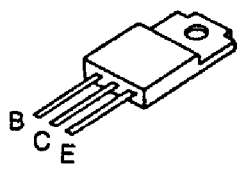
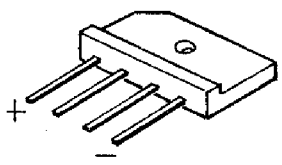
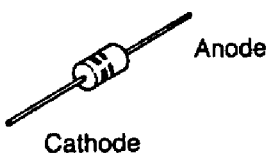
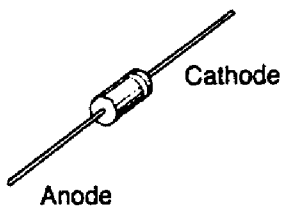
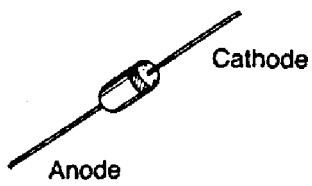
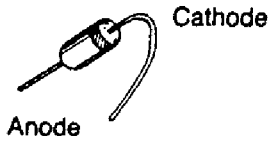
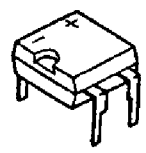
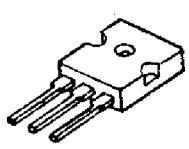
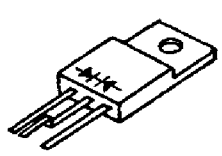
*1–15: Analog Switch

KX-T123210

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 IC100	 IC101	 IC102,103,121	 IC104,117	 IC105,127
 IC106,107,111,112	 IC108,113,114,119, 122,142,202A-202D	 IC109,110,205,303, 305,401	 IC115,120	 IC116
 IC118,132,133,137-140, 206,207,301,302,304, 402,403,467	 IC123,124,125	 IC129,141	 IC131,200A-200D, 201A-201D,461-466, 468,469	 IC134,135136
 IC400	 IC404,405	 IC203,406-409,447, 448,450,451,453-456	 IC410-445	 IC204,300
 Q50,52	 Q100-111, 202A-202D, 203A-203D,204A-204D, 300A-300H,301A-301H, 302A-302H,303A-303H, 304A-304H,305A-305H, 306A-306H,Q307A-307H, 311A,311B,312A,312B, 400,402,404		 Q51,53	 Q200A-200D
 Q401	 D10-13	 D50,51,55,56 208A-208D	 D52,53,54,57,58, 102-105,107-115, 117-121,203A-203D, 206A-206D	D209A-209D,210A-210D, 211A-211D,212A-212D, 214A-214D,215A-215D, 216A-D216D,302H-302H, 305A-305H,308A-308H, 309A-309H,310A-310H, 311A-311H,312A-312H, 313,314A,314B, 438,439 400-435,VD100
	D100,204A-204D, 205A-205D,300A-300H, 301A-301H,307A-307H, 436,437	 D101,201A-201D	 LED1-3	

(POWER UNIT SECTION)

 IC101,102	 IC201,206	 IC202,203,204	 IC205	 Q101,204,205
 Q102,103,104,201, 206,209,212	 Q105,210,211	 Q202,207	 Q203,208	 D101
 D102,103	 D104,202,205,209,212	 D105,106,109,111, 204,206,208,211	 D108	 D110
 D201	 D203,207,210,213			

ADJUSTMENTS

OSCILLATION PERIOD ADJUSTMENT

Perform the following adjustment after replacing IC127.

1. Connect the AC cord to the AC outlet (AC 120V, 60Hz).
2. Set the Power Switch to ON.
3. Remove the rubber part from the System Program Switch and set the System Program Switch to upper position. (See Fig. 31)
   (After adjustment, return the System Program Switch to "SET" position and attach the rubber part.)
4. Reciprocal light the Day and Night Indicators.
5. Connect the KX-T123210 and Parsonal Computer (or Data Terminal) by RS-232C cable.
6. Press the Data Key of the Parsonal Computer (or Data Terminal).
7.

```
@ WELCOME TO KX-T123210 EIA PROGRAMING
                    VER 1.0 PANASONIC CO. LTD.

@ SELECT MODE          : EDIT MODE.....ED (CR)
                       : SHOW MODE.....SH (CR)

> DIG
```

Picture of Parsonal Computer (or Print of Data Terminal)

8. Input the DIG and press the Return Key.

9.

```
@ SELECT                : ALL COMPONENTS....ALL (CR)
                        : SYSTEM.....SYS (CR)
                        : X-POINT.....XPT (CR)
                        : CO TRUNK.....COT (CR)
                        : LINE CIRCUIT.....LCT (CR)
                        : PRODUCTION.....PRO (CR)
                        : MODE END.....END (CR)

D> PRO
```

Picture of Parsonal Computer
(or Print of Data Terminal)

10. Input the PRO and press the Return Key.
11. Connect the frequency counter. (See Fig. 32)
12. Set the frequency counter to "PERIOD" position.
13. Adjust VC100 for a reading of ( ) msec on the frequency counter.

Room temperature for adjusting (°C)	Period value (msec)	Room temperature for adjusting (°C)	Period value (msec)
14~14.9	15.624943 (±0.00001)	20~20.9	15.624880 (±0.00001)
15~15.9	15.624933 (±0.00001)	21~21.9	15.624876 (±0.00001)
16~16.9	15.624922 (±0.00001)	22~27.9	15.624870 (±0.00001)
17~17.9	15.624910 (±0.00001)	28~28.9	15.624876 (±0.00001)
18~18.9	15.624899 (±0.00001)	29~29.9	15.624880 (±0.00001)
19~19.9	15.624888 (±0.00001)		

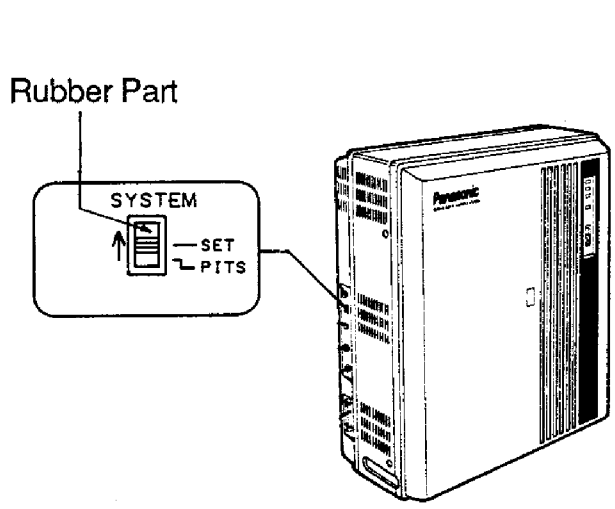


Fig. 31

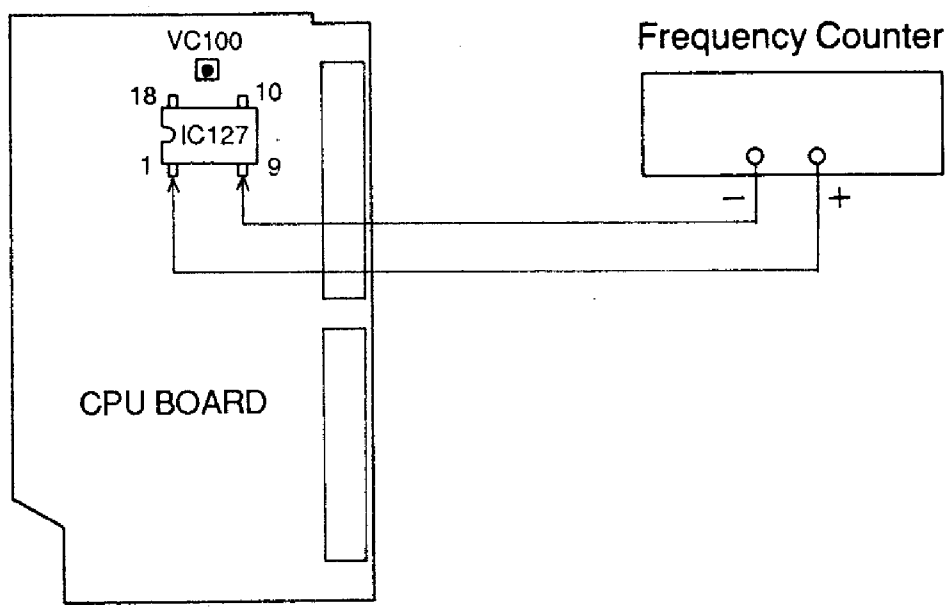
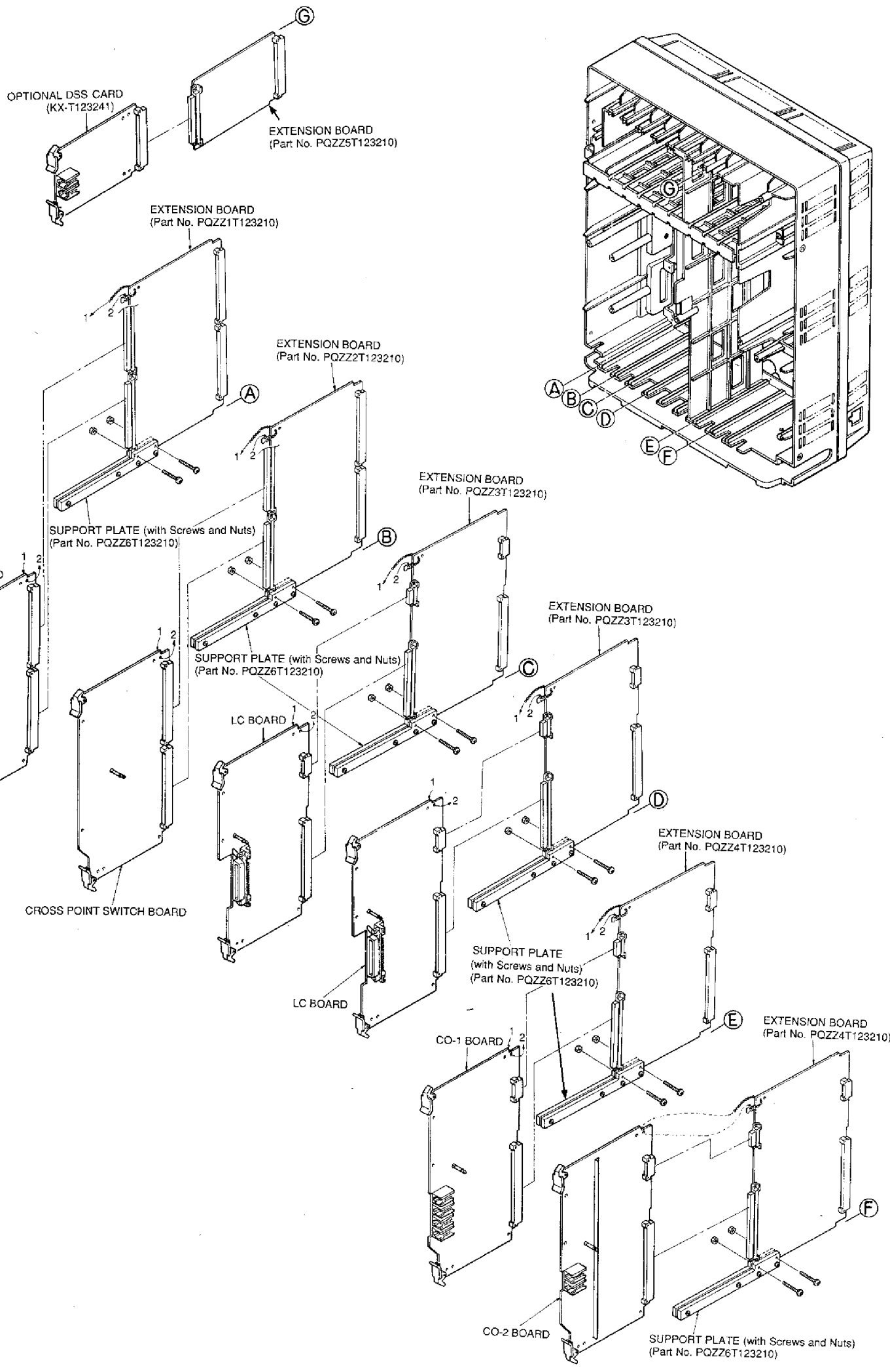


Fig. 32

EXTENSION BOARD CONNECTING METHOD



OPTIONAL EXPANSION CARD AND EXTENSION BOARD COMPAISON TABLE		
OPTIONAL EXPANSION CARD	EXTENSION BOARD PART NO.	SUPPORT PLATE PART NO.
KX-T123270 (8 Extensions)	PQZZ3T123210	PQZZ6T123210
KX-T123271 (4 Extensions)	PQZZ3T123210	PQZZ6T123210
KX-T123280 (4 CO's)	PQZZ4T123210	PQZZ6T123210
KX-T123281 (2 CO's)	PQZZ4T123210	PQZZ6T123210

CABINET AND ELECTRICAL PARTS LOCATION

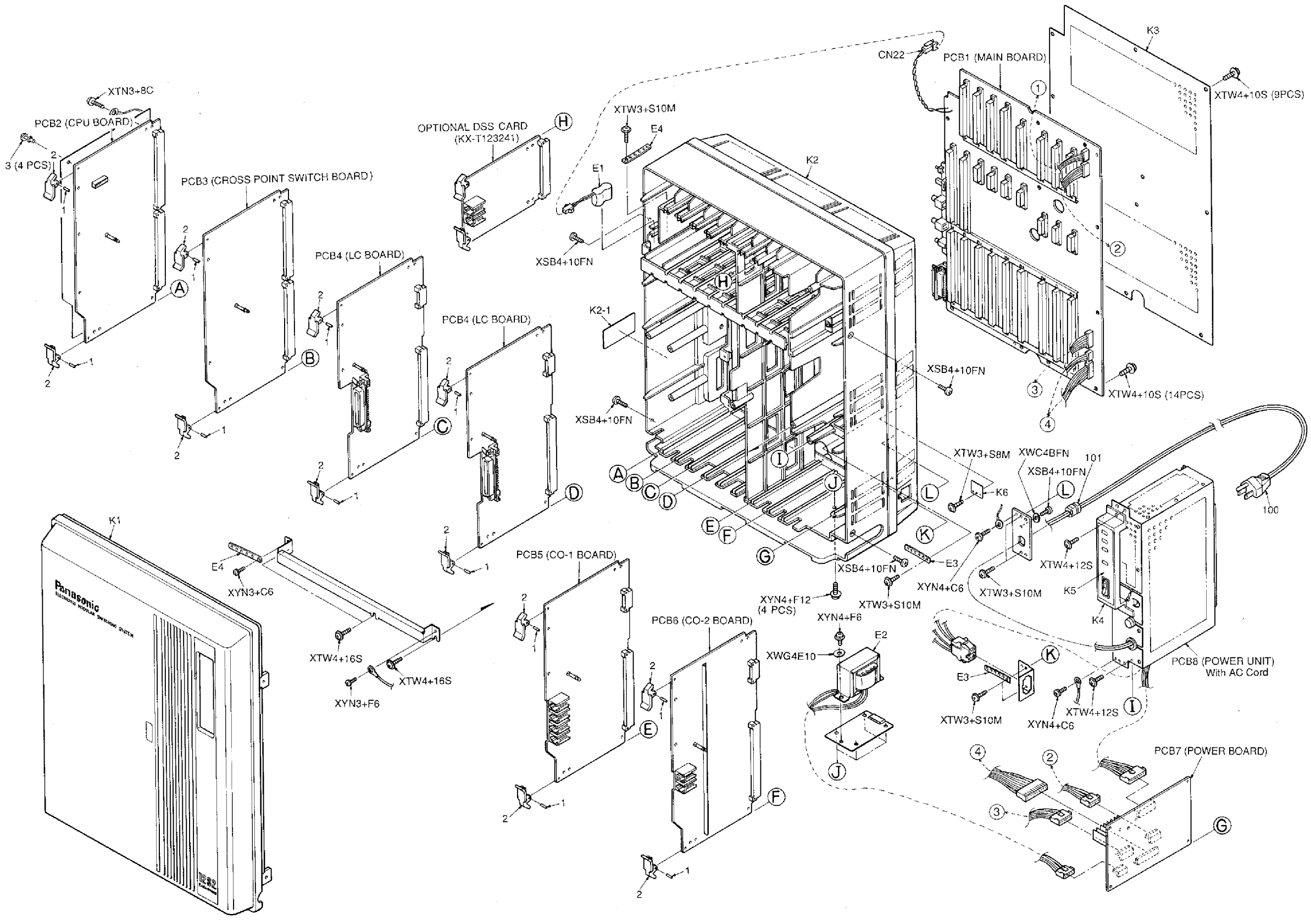


Fig. 33

POWER UNIT PARTS LOCATION

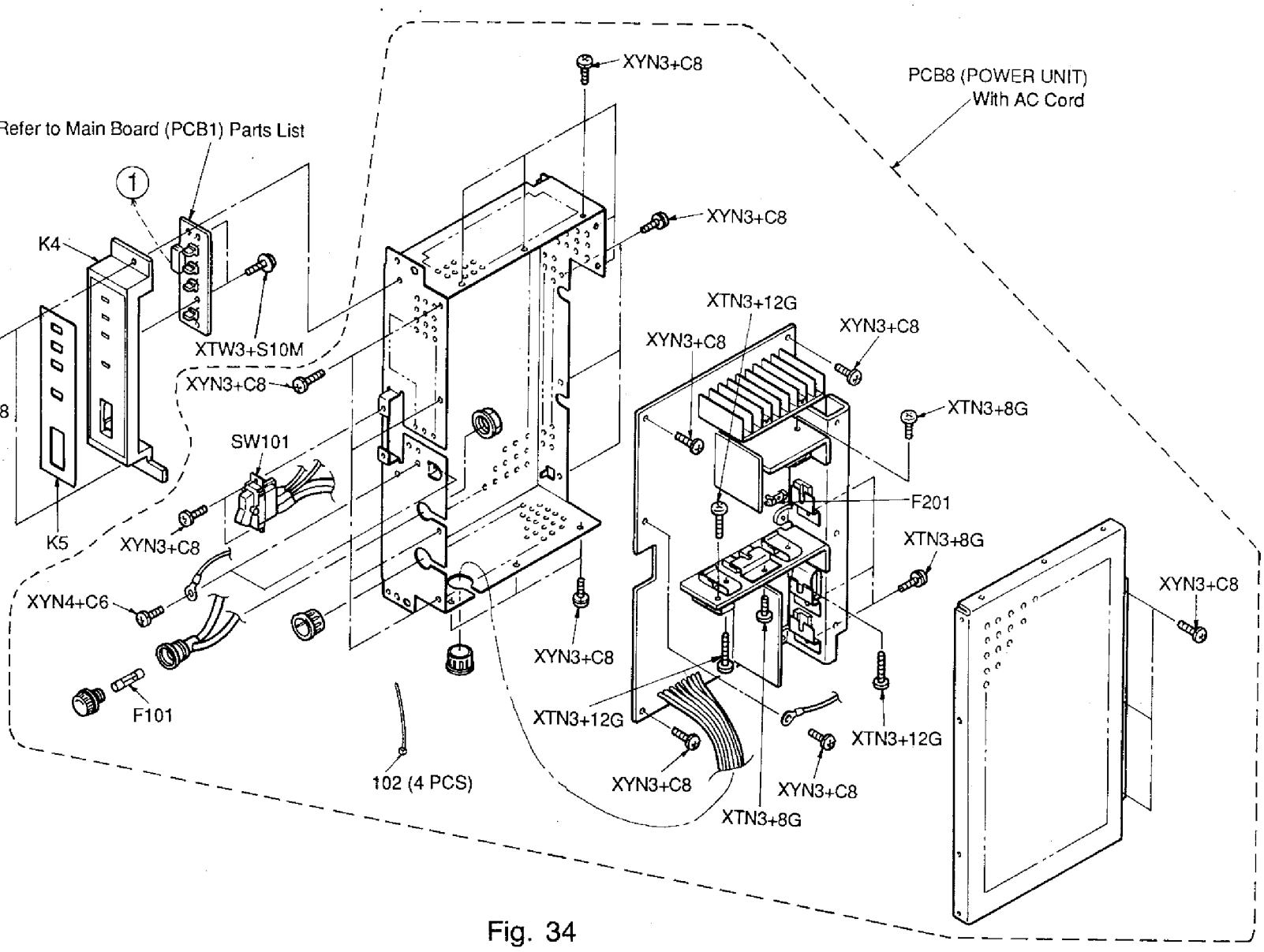


Fig. 34

ACCESSORIES AND PACKING MATERIALS

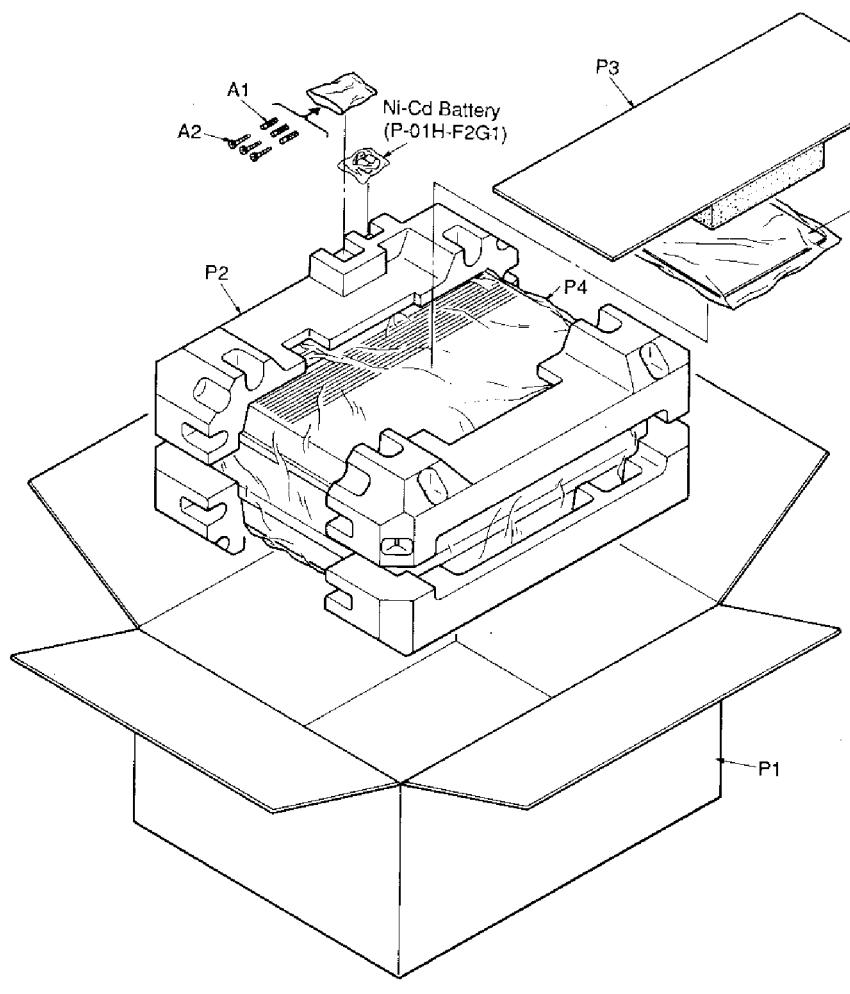


Fig. 35

KX-T123210

REPLACEMENT PARTS LIST

Model KX-T123210

Notes:

1. Printed circuit board assembly and power unit with mark (NLA) is no longer available afterproduction discontinuation of the complete set.
2. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P= μF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQVP : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polyproplylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
		CABINET & ELECTRICAL PARTS	
K1	PQYFT123210M	Front Cabinet Assembly	1
K2	PQYMT123210M	Cabinet Body Assembly	1
K2-1	PQGT295Z	Name Plate	1
K3	PQYUT123210M	Rear Cover Assembly	1
K4	PQGG52Z	LED Grille	1
K5	PQGK54Z	Indication Plate	1
K6	PQUV66Z	Cover	1
E1	P-01H-F2G1	Ni-Cd Battery	1
E2	PQLT1U9M1A	Bell Transformer	1
E3	RME143Z	Cord Band	2
E4	RME144Z	Cord Band	2
		ACCESSORIES AND PACKING MATERIALS	
A1	PQHE10Z	Curl Plug	3
A2	PQHE5008Z	Screw	3
A3	PQQX5442Z	Installation Manual	1
A4	PQQX5443Z	User Guide	1
A5	PQQX9183Z	Instruction Book (For Additionl Feature)	1
P1	PQPK516Z	Packing Case	1
P2	PQPN9039Z	Pad Complete	1
P3	PQPE101Z	Pad	1
P4	PQPP118Z	Protection Cover (for Unit)	1

Ref. No.	Part No.	Part Name & Description		Pcs
		MAIN BOARD PARTS		
PCB1	PQWP1T123210	Main P.C. Board Ass'y (NLA)		1
		(DIODES)		
D10,13	LN220RPH	LED		2
D11	LN420YPH	LED		1
D12	LN320GPH	LED		1
		(TRANSFORMERS & COILS)		
T1,2,3	PQLT2D6B	Transformer		3
L1,2,4, L5,7-9, L11,13	PQLQZM2R2M	Choke Coil		9
L3,6	PQLQZM4R7K	Choke Coil	S	2
		(SWITCHES)		
SW	EVQQJH12T	Switch, Reset		1
SW	PQSS3A14Z	Switch, Mode		1
		(RESISTORS)		
R1-14	ERD16TJ103	10k		14
R15-17	ERD16TJ821	820		3
R19-22	ERD16TJ821	820		4
		(JACKS & CONNECTORS)		
JA1,2	PQJJ1E1Y	Jack, Paging		2
JA3	RJJ19Y	Jack, Earphone		1
CN1-3, 6A-6D, 8A-8C	PQJS45S30Z	Connector, 45P		10
CN5A-5D,7A-7C	PQJS8S32Z	Connector, 8P		7
CN9, CN10A, 10B,11	PQJS64S30Z	Connector, 64P		4
CN12-CN5	PQJS50S33Z	Connector, 50P		4
CN4	PQJS90S30Z	Connector, 90P		1
CN16	PQJS5R31Z	Connector, 5P		1
CN17	PQJS5R32Z	Connector, 5P		1
CN18	PQJS6R31Z	Connector, 6P		1
CN19, CN20	PQJS10R31Z	Connector, 10P		2
CN21	PQJS25P31Z	Socket, EIA		1
CN22	PQJS2L44Z	Connector, 2P		1
J26	PQJP5D13Z	Connector, 5P		1
		CPU BOARD PARTS		
PCB2	PQWP2T123210	CPU P.C. Board Ass'y (NLA)		1
		(ICs)		
IC100	PQVIMS80C88	IC		1
IC101/ IC104	PQWIT123210M	IC (ROM Kit)		1
IC102	PQVIPD83257C	IC	S	1
IC103	PQVIHM62256L	IC	S	1
IC105	PQVIMS8C84A2	IC	S	1
IC106	PQVIM7H245P	IC		1
IC107	PQVIM7H245P	IC		1
IC108	PQVIM7H174P	IC		1
IC109	PQVIHD7L640P	IC		1
IC110	PQVIHD7L240P	IC		1
IC111	PQVIM7H373P	IC		1
IC112	PQVIM7H373P	IC		1
IC113	PQVIM7H137P	IC		1
IC114	PQVIHD7L138P	IC		1
IC115	PQVIHD7L154P	IC		1
IC116	PQVI63HB110	IC		1
IC117	PQVIMS8C59A2	IC	S	1
IC118	PQVIM7H107P	IC		1
IC119	PQVITC7H138P	IC	S	1
IC120	PQVIPD71054C	IC	S	1
IC121	PQVIPD71051C	IC	S	1

Ref. No.	Part No.	Part Name & Description		Pcs
IC122	PQVILR4089	IC		1
IC123, IC124, IC125	PQVIMT8870BC	IC		3
IC126	Not Used			
IC127	PQVIMS6242BS	IC		1
IC128	Not Used			
IC129	PQVIPS520C	IC		1
IC130	Not Used			
IC131	PQVINJM4558D	IC		1
IC132	PQVIHD75188P	IC		1
IC133	PQVIHD75189P	IC		1
IC134	PQVIM7H32P	IC		1
IC135	PQVIM7H02P	IC		1
IC136	PQVITC7H00P	IC	S	1
IC137	PQVITC7H04P	IC	S	1
IC138	PQVIHD7LS04P	IC		1
IC139	PQVITC7H04P	IC	S	1
IC140	PQVITC7H04P	IC	S	1
IC141	PQVIPS520C	IC		1
IC142	PQVIBU3140	IC		1
		(TRANSISTORS)		
Q100-Q103	DTC124EA	Transistor (Si)		4
Q104	Not Used			
Q105	2SC2021	Transistor (Si)		1
Q106	2SA937	Transistor (Si)		1
Q107	DTC124EA	Transistor (Si)		1
Q108	DTA124EA	Transistor (Si)		1
Q109	DTA124EA	Transistor (Si)		1
Q110	DTC124EA	Transistor (Si)		1
Q111	DTA143XA	Transistor (Si)		1
		(DIODES)		
D100	MA4091	Diode (Si)		1
D101	MA4130	Diode (Si)		1
D102-D104	1SS131	Diode (Si)		3
D105	Not Used			
D106	Not Used			
D107-D115	1SS131	Diode (Si)		9
D116	Not Used			
D117-D121	1SS131	Diode (Si)		5
VD100	PQVD1SV124	Diode (Si)		1
		(TRIMMER)		
VC100	PQCVTZB30B	Trimmer		1
		(COMPONENT COMBINATIONS)		
CA101	PQXF4WB04	Capacitor Array		1
Z108	EXBP84103K	Resistor Array	S	1
		(CRYSTAL OSCILLATORS)		
X100	PQWET123210M	Crystal Oscillator Assembly		1
X101	Not Used			
X102	PQVCX3579H5R	Crystal Oscillator		1
X103	PQVCL3276N4Z	Crystal Oscillator		1
		(THERMISTERS)		
TH100	PQRRTS104U	Thermister		1
TH101	PQRRTS203U	Thermister		1
		(COILS)		
L100-L103	PQLQZM1R5M	Choke Coil		4
L104	PQLQZM2R2M	Choke Coil		1
L105	PQLQZM2R2M	Choke Coil		1

Ref. No.	Part No.	Value	Pcs
		(RESISTORS)	
R68	ERD16TJ220	22	1
R69-72	ERD16TJ103	10k	4
R83	ERD16TJ101	100	1
R74	ERD16TJ221	220	1
R75-77	ERD16TJ151	150	3
R78	ERD16TJ101	100	1
R79-88	ERD16TJ103	10k	10
R89	ERD16TJ104	100k	3
R90,91	ERD16TJ124	120k	2
R92,93	ERD16TJ223	22k	2
R94	ERD16TJ103	10k	1
R95	ERD16TJ223	22k	1
R96	ERD16TJ103	10k	1
R97	Not Used		
R98,99	ERD16TJ103	10k	2
R100	ERD16TJ683	68k	1
R101	ERD16TJ103	10k	1
R102	ERD16TJ103	10k	1
R103-R106	ERD16TJ102	1k	4
R107	ERD16TJ103	10k	1
R108	ERD16TJ103	10k	1
R109	ERD16TJ471	470	1
R110	ERD16TJ472	4.7k	1
R111	ERD16TJ223	22k	1
R112	ERD16TJ683	68k	1
R113	ERD16TJ471	470	1
R114	ERD16TJ472	4.7k	1
R115	ERD16TJ223	22k	1
R116-R119	ERD16TJ103	10k	4
R120-R122	ERD16TJ223	22k	3
R123-R140	ERD16TJ103	10k	18
R141-R146	ERD16TJ102	1k	6
R147-R152	ERD16TJ103	10k	6
R153-R156	ERD16TJ102	1k	4
R157-R159	ERD16TJ103	10k	3
R160-R163	ERD16TJ183	18k	4
R164	ERD16TJ103	10k	1
R165	ERD16TJ184	18k	1
R166	ERD16TJ183	18k	1
R167	ERD16TJ394	390k	1
R168	ERD16TJ103	10k	1
R169	ERD16TJ183	18k	1
R170	ERD16TJ103	10k	1
R171	ERD16TJ333	33k	1
R172-R175	ERD16TJ103	10k	4
R176	ERD16TJ154	150k	1
R177	ERD16TJ105	1M	1
R178	ERD16TJ223	22k	1
R179	ERD16TJ223	22k	1
R180	ERD16TJ472	4.7k	1
R181	ERD16TJ104	100k	1
R182	ERD16TJ333	33k	1
R183	ERD16TJ334	330k	1
R184	ERD16TJ104	100k	1
R185	ERD16TJ333	33k	1
R186	ERD16TJ334	330k	1
R187	ERD16TJ104	100k	1
R188	ERD16TJ333	33k	1
R189	ERD16TJ334	330k	1
R190-R199	ERD16TJ103	10k	10

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		(CAPACITORS)		
C100	ECEA1HU4R7	4.7		1
C101	ECEA1HU100	10	S	1
C102	Not Used			
C103	ECEA1HU100	10	S	1
C104	ECEA1HU100	10		1
C105	ECEA1CSS102	1000		1
C106	ECEA1HN3R3S	3.3		1
C107-	ECEA1HU100	10	S	3
C109	Not Used			
C110	ECEA1EU470	47	S	1
C111	ECEA1EU470	47	S	1
C112-	Not Used			
C119				
C120	ECQV1H104JZ	0.1		1
C121	ECQV1H104JZ	0.1		1
C122	Not Used			
C123	Not Used			
C124	ECCD1H150JC	150P		1
C125	ECCD1H150JC	150P		1
C126	Not Used			
C127	Not Used			
C128	Not Used			
C129	ECQM1H472JV	0.0047		1
C130	ECFD1C104MD	0.1		1
C131	ECQV1H104JZ	0.1		1
C132	ECFD1C104MD	0.1		1
C133	ECQV1H104JZ	0.1		1
C134	ECFD1C104MD	0.1		1
C135	ECQV1H104JZ	0.1		1
C136	Not Used			
C137	Not Used			
C138	ECFD1C104MD	0.1		1
C139	ECKD1H103MD	0.01		1
C140	Not Used			
C141	ECKD1H103MD	0.01		1
C142	ECKD1H102KB	0.001		1
C143	ECKD1H102KB	0.001		1
C144-	Not Used			
C149				
C150-	ECKD1H223MD	0.022		4
C153				
C154	Not Used			
C155	ECKD1H223MD	0.022		1
C156	ECKD1H223MD	0.022		1
C157	Not Used			
C158-	ECKD1H223MD	0.022		4
C161				
C162-	Not Used			
C165				
C166-	ECKD1H223MD	0.022		10
C175				
C176	Not Used			
C177	ECEA1EU470	47	S	1
C178	Not Used			
C179	ECKD1H223MD	0.022		1
C180	Not Used			
C181	ECKD1H223MD	0.022		1
C182	Not Used			
C183	ECKD1H223MD	0.022		1
C184	ECKD1H223MD	0.022		1
C185-	Not Used			
C189				
C190	ECKD1H223MD	0.022		1
C191	ECKD1H223MD	0.022		1
C192-	Not Used			
C196				
C197	ECCD1H150JC	15P		1
C198	ECCD1H150JC	15P		1
C199	ECEA1EU470	47		1
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Palstic Parts, Latch		2
3	PQME52Z	Plastic Parts, Stopper		4
CNA	PQJP14D49Z	Connector, 14P		1
CN1,2	PQJP45S30Z	Connector, 45P		2

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		CROSS POINT SWITCH BOARD PARTS		
PCB3	PQWP3T123210	Cross Point Switch P.C. Board Ass'y (NLA)		1
		(ICs)		
IC400	PQVIPD71055C	IC	S	1
IC401	PQVIHD7L640P	IC		1
IC402	PQVIHD7LS04P	IC		1
IC403	PQVIHD7LS08P	IC		1
IC404	AN78L07	IC		1
IC405	AN79L07	IC		1
IC406-	PQVITD62706P	IC		4
IC409				
IC410-	PQVIM402101P	IC		36
IC445				
IC446	Not Used			
IC447	PQVIPD22100C	IC	S	1
IC448	PQVIPD22100C	IC	S	1
IC449	Not Used			
IC450	PQVIPD22100C	IC	S	1
IC451	PQVIPD22100C	IC	S	1
IC452	Not Used			
IC453-	PQVIPD22100C	IC	S	4
IC456				
IC457-	Not Used			
IC460				
IC461-	PQVINJM4558D	IC		6
IC466				
IC467	PQVIPD4066BC	IC		1
IC468	PQVINJM4558D	IC		1
IC469	PQVINJM4558D	IC		1
		(TRANSISTORS)		
Q400	2SC2021	Transistor (Si)		1
Q401	2SC2878	Transistor (Si)		1
Q402	DTC124EA	Transistor (Si)		1
Q403	Not Used	Transistor (Si)		
Q404	DTA124EA	Transistor (Si)		1
		(DIODES)		
D400-	1SS131	Diode (Si)		36
D435				
D436	MA4047	Diode (Si)		1
D437	MA4047	Diode (Si)		1
D438	1SS131	Diode (Si)		1
D439	1SS131	Diode (Si)		1
		(COMPONENT COMBINATIONS)		
Z400-	EXBP86103K	Resistor Array	S	4
Z403				
		(TRANSFORMER)		
T400	ETA14Y85AY	Transformer		1
		(RESISTORS)		
R400	ERD16TJ103	10k		1
R401	ERD16TJ103	10k		1
R402	Not Used			
R403	ERO16CKF1180	118		1
R404-	ERD16TJ103	10k		21
R424				
R425-	ERD16TJ472	4.7k		3
R427				
R428	ERD16TJ223	22k		1
R429	Not Used			
R430-	ERO16CKF1180	118		31
R460				
R461-	ERO16CKF1021	1.02k		32
R492				
R493-	ERO16CKF1430	143		12
R504				
R505-	ERO16CKF1001	1k		12
R516				

Ref. No.	Part No.	Value		Pcs
R517	ERO16CKF1151	1.15k		1
R518	ERO16CKF1151	1.15k		1
R519	Not Used			
R520	Not Used			
R521	ERO16CKF3401	3.4k		1
R522	ERO16CKF3401	3.4k		1
R523-R527	ERO16CKF3921	3.92k		5
R528	ERD16TJ104	100k		1
R529	ERD16TJ223	22k		1
R530	ERD16TJ333	33k		1
R531	ERD16TJ333	33k		1
R532	ERD16TJ102	1k		1
R533	ERD16TJ102	1k		1
R534	ERD16TJ222	2.2k		1
R535	ERD16TJ223	22k		1
R536	ERD16TJ333	33k		1
R537	ERD16TJ222	2.2k		1
R538	ERD16TJ223	22k		1
R539	ERD16TJ333	33k		1
R540	ERD16TJ332	3.3k		1
R541	ERD16TJ472	4.7k		1
R542	ERD16TJ222	2.2k		1
R543	ERD16TJ472	4.7k		1
R544	ERD16TJ334	330k		1
R545	ERD16TJ333	33k		1
R546	ERD16TJ103	10k		1
R547	ERD16TJ153	15k		1
R548	ERD16TJ103	10k		1
R549	ERD16TJ681	680		1
R550	ERD16TJ681	680		1
R551	ERD16TJ332	3.3k		1
R552	ERD16TJ683	68k		1
R553	ERD16TJ823	82k		1
R554	ERD16TJ224	220k		1
R555	ERD16TJ474	470k		1
R556	ERD16TJ563	56k		1
R557	ERD16TJ184	180k		1
R558	ERD16TJ823	82k		1
R559	ERD16TJ683	68k		1
R560	ERD16TJ823	82k		1
R561	ERD16TJ224	220k		1
R562	ERD16TJ823	82k		1
R563	ERD16TJ474	470k		1
R564	ERD16TJ184	180k		1
R565	ERD16TJ563	56k		1
R566-R569	Not Used			
R570	ERD16TJ102	1k		1
R571	ERD16TJ102	1k		1
R572-R574	ERD16TJ104	100k		3
R575	ERD16TJ332	3.3k		1
R576	ERD16TJ102	1k		1
R577-R583	Not Used			
R584	ERD16TJ563	56k		1
R585	Not Used			
R586	ERD16TJ183	18k		1
R587	Not Used			
R588	ERD16TJ103	10k		1
R589	ERD16TJ103	10k		1
		(CAPACITORS)		
C400	Not Used			
C401	Not Used			
C402	ECEA1EU470	47	S	1
C403	ECEA1EU470	47	S	1
C404	ECEA1HU220	22	S	1
C405	ECEA1HU220	22	S	1
C406	ECEA1HN2R2S	2.2		1
C407	ECEA1EU101	100	S	1
C408	Not Used			
C409	ECQM1H222JV	0.0022		1
C410	ECKD1H223MD	0.022		1
C411	Not Used			
C412	Not Used			

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C413	ECKD1H223MD	0.022	1
C414	Not Used		
C415	Not Used		
C416	Not Used		
C417	ECKD1H102KB	0.001	
C418	Not Used		
C419	Not Used		
C420	ECQM1H102JV	0.001	1
C421	ECQM1H102JV	0.001	1
C422-C426	ECQV1H273JZ	0.027	5
C427	ECKD1H102KB	0.001	1
C428	ECKD1H332KB	0.0033	1
C429	ECKD1H102KB	0.001	1
C430	ECKD1H332KB	0.0033	1
C431	ECFD1C104MD	0.1	1
C432	ECFD1C104MD	0.1	1
C433	ECKD1H332KB	0.0033	1
C434	ECQV1H333JZ	0.033	1
C435	Not Used		
C436	Not Used		
C437	Not Used		
C438-C441	ECQM1H222JV	0.0022	4
C442	ECFD1C104MD	0.1	1
C443	ECQV1H683JZ	0.068	1
C444	ECFD1C104MD	0.1	1
C445	ECQV1H473JZ	0.047	1
C446	Not Used		
C447	ECKD1H223MD	0.022	1
C448	ECKD1H223MD	0.022	1
C449	Not Used		
C450	ECKD1H103MD	0.01	1
C451	ECKD1H223MD	0.022	1
C452	Not Used		
C453-C456	ECKD1H223MD	0.022	4
C457	Not Used		
C458-C464	ECKD1H223MD	0.022	7
C465	ECEA1CSS102	1000	1
C466-C469	Not Used		
C470	ECKD1H102KB	0.001	1
C471	ECKD1H102KB	0.001	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CN3	PQJP45S30Z	Connector, 45P	1
CN4	PQJP90S30Z	Connector, 90P	1
		LC (1,2) BOARD PARTS	
PCB4	KX-T123270	LC P.C. Board Ass'y (NLA) (Supply by business route)	2
		(ICs)	
IC300	PQVI671152F	IC	1
IC301	PQVIHD7LS08P	IC	1
IC302	PQVIHD7LS08P	IC	1
IC303	PQVIHD7L640P	IC	1
IC304	PQVIHD7LS04P	IC	1
IC305	PQVIHD7L244P	IC	1
		(TRANSISTORS)	
Q300A-Q300H	2SA937	Transistor (Si)	8
Q301A-Q301H	2SB909M	Transistor (Si) S	8
Q302A-Q302H	2SD1225M	Transistor (Si) S	8

Ref. No.	Part No.	Part Name & Description	Pcs
Q303A-Q303H, Q304A-Q304H, Q305A-Q305H	2SC2021	Transistor (Si)	24
Q306A-Q306H	UN1122	TRansistor (Si)	8
Q307A-Q307H	DTC124EA	TRansistor (Si)	8
Q308A-Q308H	Not Used		
Q309A-Q309H	Not Used		
Q310A-Q310H	Not Used		
Q311A	DTC124EA	Transistor (Si)	1
Q311B	DTC124EA	Transistor (Si)	1
Q312A	DTA124EA	Transistor (Si)	1
Q312B	DTA124EA	Transistor (Si)	1
		(DIODES)	
D300A-D300H, D301A-D301H	MA4047	Diode (Si)	16
D302A-D302H, D303A-D303H, D304A-D304H	1SS131	Diode (Si)	8
D305A-D305H	1SS131	Diode (Si)	8
D306A-D306H	Not Used		
D307A-D307H	MA4056	Diode (Si)	8
D308A-D308H, D309A-D309H, D310A-D310H, D311A-D311H, D312A-D312H D313, D314A, D314B	1SS131	Diode (Si)	43
		(VARISTORS)	
ZNR 30A-ZNR 30H, ZNR 31A-ZNR 31H, ZNR32, ZNR33	ERZC03DK241	Varistor	18
		(THERMISTORS)	
PHT 30A-PHT 30H	PQRPAR8R2M	Thermistor	8

Ref. No.	Part No.	Value, Part Name and Description		Pcs
		(COMPONENT COMBINATIONS)		
Z300	EXBP88472K	Resistor Array	S	1
Z301	PQRS8B8102J	Resistor Array		1
Z302	EXBP84103K	Resistor Array	S	1
		(PHOTO ELECTRIC TRANSDUCERS)		
PC 300A-PC 300H	PQVIPC817K	Photo Coupler		8
		(CRYSTAL OSCILLATOR)		
X300	PQVCX4000N8Z	Crystal Oscillator		1
		(TRANSFORMERS)		
T300A-T300H	ETA14Y85AY	Transformer		8
T301A-T301H	ETE13K38AY	Transformer		8
		(COILS)		
L300A-L300H, L301A-L301H,	PQLQZM2R2M	Choke Coil		16
		(RELAYS)		
RLY 30A-RLY 30H	PQSL41A			8
RLY31A	PQSL49Z		⚠	1
RLY31B	PQSL49Z		⚠	1
		(RESISTORS)		
R300A-R300H	ERD16TJ330	33		8
R301A-R301H	ERD16TJ220	22		8
R302A-R302H, R303A-R303H	ERD16TJ682	6.8k		16
R304A-R304H	ERD16TJ220	22		8
R305A-R305H	ERD16TJ330	33		8
R306A-R306H	PQRD2TJ102	1k		8
R307A-R307H	ERD16TJ153	15k		8
R308A-R308H	ERD16TJ123	12k		8
R309A-R309H	ERD16TJ101	100		8
R310A-R310H	ERD16TJ473	47k		8
R311A-R311H, R312A-R312H	ERD16TJ121	120		16
R313A-R313H	ERD16TJ222	2.2k		8
R314A-R314H	ERD16TJ221	220		8
R315A-R315H	ERD16TJ472	4.7k		8

Ref. No.	Part No.	Value, Part Name & Description		Pcs
R316A-R316H, R317	ERD16TJ103	10k		9
R318	Not Used			
R319	ERD16TJ472	4.7k		1
R320	Not Used			
R321	ERD16TJ472	4.7k		1
R322	Not Used			
R323	ERD16TJ103	10k		1
R324	Not Used			
R325	Not Used			
R326	ERD16TJ105	1M		1
R327-R331	ERD16TJ103	10k		5
		(CAPACITORS)		
C301A-C301H	ECEA1HU3R3	3.3	S	8
C302A-C302H	ECEA1HU2R2	2.2		8
C303A-C303H	ECEA1HU3R3	3.3	S	8
C304A-C304H	ECEA1HN4R7S	4.7		8
C305A-C305H, C306A-C306H	ECEA1HU010	1		16
C307A-C307H, C308A-C308H	ECKD1H103MD	0.01		16
C309	ECCD1H221J	220P		1
C310	ECEA1HU100	10		1
C311	Not Used			
C312	Not Used			
C313	ECKD1H223MD	0.022		1
C314	Not Used			
C315	Not Used			
C316	Not Used			
C317	PQCBC1C103MY	0.01		1
C318	ECEA1EU101	100		1
C319	Not Used			
C320	ECEA1EU470	47	S	1
C321	ECEA1EU101	100		1
C322	ECEA1EU101	100		1
C323	Not Used			
C324	Not Used			
C325	ECCD1H220JC	22P		1
C326	ECCD1H220JC	22P		1
C327A-C327H, C328A-C328H	ECKD1H471KB	470P		16
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Plastic Parts, Latch		2
CNA	PQJS50Q30Z	Socket, 50P		1
CNB	PQJP8S30Z	Connector, 8P		1
CNC	PQJP45S30Z	Connector, 45P		1

Ref. No.	Part No.	Part Name & Description		Pcs
		CO-1 BOARD PARTS		
PCB5	KX-T123280	CO-1 P.C. Board Ass'y (NLA) (Supply by business route)		1
		(ICs)		
IC200A-IC200D, IC201A-IC201D	PQVINJM4558D	IC		8
IC202A-IC202D	PQVINJ7301D	IC		4
IC203	PQVIBU 3149	IC		1
IC204	PQVI672191F	IC		1
IC205	PQVIHD7L640P	IC		1
IC206	PQVIHD7LS08P	IC		1
IC207	PQVIHD7LS04P	IC		1
		(TRANSISTORS)		
Q200A-Q200D	2SC2590	Transistor (Si)	⚠	4
Q201A-Q201D	Not Used			
Q202A-Q202D, Q203A-Q203D Q204A-Q204D	DTC124EA	Transistor (Si)		12
		(DIODES)		
D201A-D201D	MA4150	Diode (Si)	⚠	4
D202A-D202D	Not Used			
D203A-D203D	PQVDS1YB40F1	Diode (Si)	⚠	4
D204A-D204D, D205A-D205D	MA4047	Diode (Si)		8
D206A-D206D	1SS131	Diode (Si)		4
D207A-D207D	Not Used			
D208A-D208D	PQVDSV03YSW	Diode (Si)	⚠	4
D209A-D209D, D210A-D210D, D211A-D211D, D212A-D212D	1SS131	Diode (Si)	⚠	16
D213A-D213D	Not Used			
D214A-D214D, D215A-D215D, D216A-D216D	1SS131	Diode (Si)		12
		(PHOTO ELECTRIC TRANSDUCERS)		
PC 200A-PC 200D	PQVIPC817K	Photo Coupler	⚠	4
PC 201A-PC 201D	PQVITLP521	Photo Coupler	⚠	4

Ref. No.	Part No.	Value, Part Name & Description	Pcs
		(VARISTORS)	
ZNR 20A-ZNR 20D, ZNR 21A-ZNR 21D	PQVDDSS401M	Varistor ⚠	8
ZNR 22A-ZNR 22D	ERZC07DK820	Varistor ⚠	4
		(CERAMIC FILTER)	
X201	PQVBFC3584A1	Ceramic Filter	1
		(RELAYS)	
RLY 20A-RLY 20D	PQSL34Z	Relay ⚠	4
RLY 21A-RLY 21D	PQSL63Z	Relay ⚠	4
RLY 22A-RLY 22D	PQSL41Z	Relay ⚠	4
		(TRANSFORMERS)	
T200A-T200D	ETA14Y85AY	Transformer ⚠	4
		(COILS)	
L200A-L200D, L202A-L202D	PQLQZL101K	Choke Coil ⚠	8
L201A-L201D, L203A-L203D	PQLQZK100K	Choke Coil ⚠	8
L204A-L204D, L205A-L205D	PQLQZK220K	Choke Coil	8
		(RESISTORS)	
R200A-R200D	ERD16TJ151	150 ⚠	4
R201A-R201D	ERDS1TJ223	22k ⚠	4
R202A-R202D	ERDS2TJ102	1k ⚠	4
R203A-R203D	ERD16TJ5R6	5.6 ⚠	4
R204A-R204D	ERD16TJ822	8.2k ⚠	4
R205A-R205D	ERD25TJ330	33 ⚠	4
R206A-R206D	ERD16TJ473	47	4
R207A-R207D	ERD16TJ472	4.7k	4
R208A-R208D	ERD16TJ473	47 ⚠	4
R209A-R209D	Not Used		
R210A-R210D, R211A-R211D	ERO16CKF1211	1.21k	8

Ref. No.	Part No.	Value	Pcs
R212A-R212D, R213A-R213D	ERO16CKF1003	100k	8
R214A-R214D	Not Used		
R215A-R215D, R216A-R216D	ERO16CKF1003	100k	8
R217A-R217D	Not Used		
R218A-R218D	ERO16CKF2613	261k	4
R219A-R219D	ERD16TJ102	1k	4
R220A-R220D, R221A-R221D	ERO16CKF1211	1.21k	8
R222A-R222D	Not Used		
R223A-R223D, R224A-R224D, R225A-R225D, R226A-R226D	ERO16CKF1003	100k	16
R227A-R227D	Not Used		
R228A-R228D	ERO16CKF2613	261k	4
R229A-R229D	ERD16TJ391	390	4
R230A-R230D	ERD16TJ152	1.5k	4
R231A-R231D	Not Used		
R232A-R232D	ERD16TJ471	470	4
R233A-R233D	ERD16TJ122	1.2k	4
R234A-R234D	Not Used		
R235A-R235D	ERD16TJ471	470	4
R236A-R236D	ERD16TJ122	1.2k	4
R237A-R237D	ERD16TJ105	1M	4
R238A-R238D	Not Used		
R239A-R239D	ERD16TJ102	1k ⚠	4
R240	Not Used		
R241	Not Used		
R242	Not Used		
R243	ERD16TJ472	4.7k	1
R244	Not Used		
R245A-R245D	ERD16TJ105	1M	4
R246	ERD16TJ103	10k	1
R247-R250	ERD16TJ223	22k	4
R251	Not Used		
R252	ERD16TJ101	100	1
R253A-R253D, R254	ERD16TJ105	1M	1
R255	ERD16TJ103	10k	6
R256	Not Used		
R257	Not Used		
R258	Not Used		
R259	ERD16TJ102	1k	1
R260	Not Used		
	ERD16TJ470	47	1

Ref. No.	Part No.	Value, Part Name & Description		Pcs
R261	ERD16TJ184	180k		1
		(CAPACITORS)		
C200A-C200D	ECQE1104KN	0.1		4
C201A-C201D	ECQE2474KS	0.47	⚠	4
C202A-C202D, C203A-C203D	ECEA1HU220	22	⚠	8
C204A-C204D	ECQV1H104JZ	0.1		4
C205A-C205D	ECEA1HU220	22	⚠	4
C206A-C206D	ECKD1H102KB	0.001		4
C207A-C207D, C208A-C208D	ECFD1E683MD	0.068		8
C209A-C209D, C210A-C210D	ECCD1H560KC	56P		8
C211A-C211D	ECFD1E333MD	0.033		4
C212A-C212D	Not Used			
C213A-C213D	ECFD1E183MD	0.018		4
C214A-C214D	Not Used			
C215A-C215D	ECFD1E183MD	0.018		4
C216	Not Used			
C217	ECKD1H223MD	0.022		1
C218	Not Used			
C219	ECKD1H223MD	0.022		1
C220	ECKD1H223MD	0.022		1
C221	ECKD1H223MD	0.022		1
C222	ECKD1H103MD	0.01		1
C223	Not Used			
C224	Not Used			
C225A-C225D	ECKDKC222KB	0.0022	⚠	4
C226	ECEA1EU101	100		1
C227	Not Used			
C228	ECEA1EU470	47	S	1
C229	ECEA1EU470	47	S	1
C230	ECEA1EU101	100		1
C231	ECEA1CSS102	1000		1
C232	Not Used			
C233-C237	Not Used			
C238A-C238D	ECKD1H103MD	0.01		4
C239	ECEA1HU100	10		1
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Plastic Parts, Latch		2
CNB	PQJP8S30Z	Connector, 8P		1
CNC	PQJP45S30Z	Connectro, 45P		1
MJ1-4	PQJJ1TA11Z	Jack	⚠	4

Ref. No.	Part No.	Part Name & Description		Pcs
		CO-2 BOARD PARTS		
PCB6	KX-T123281	CO-2 P.C. Board Ass'y (NLA) (Supply by business route)		1
		(ICs)		
IC200A-IC200B, IC201A-IC201B	PQVINJM4558D	IC		4
IC202A	PQVINJ7301D	IC		1
IC202B	PQVINJ7301D	IC		1
IC203	PQVIBU3149	IC		1
IC204	PQVI672191F	IC		1
IC205	PQVIHD7L640P	IC		1
IC206	PQVISN7LS08N	IC		1
IC207	PQVIHD7LS04P	IC		1
		(TRANSISTORS)		
Q200A	2SC2590	Transistor (Si)	⚠	1
Q200B	2SC2590	Transistor (Si)	⚠	1
Q201A	Not Used			
Q201B	Not Used			
Q202A, Q202B, Q203A, Q203B, Q204A, Q204B	DTC124EA	Transistor (Si)		6
				1
		(DIODES)		
D201A	MA4150	Diode (Si)	⚠	1
D201B	MA4150	Diode (Si)	⚠	1
D202A	Not Used			
D202B	Not Used			
D203A	PQVDS1YB40F1	Diode (Si)	⚠	1
D203B	PQVDS1YB40F1	Diode (Si)	⚠	1
D204A, D204B, D205A, D205B	MA4047	Diode (Si)		4
D206A	1SS131	Diode (Si)		1
D206B	1SS131	Diode (Si)		1
D207A	Not Used			
D207B	Not Used			
D208A	PQVDSV03YSW	Diode (Si)	⚠	1
D208B	PQVDSV03YSW	Diode (Si)	⚠	1
D209A, D209B, D210A, D210B, D211A, D211B, D212A, D212B	1SS131	Diode (Si)	⚠	8
D213A	Not Used			
D213B	Not Used			
D214A, D214B, D215A, D215B, D216A, D216B	1SS131	Diode (Si)		6
		(CERAMIC FILTER)		
X201	PQVBFC3584A1	Ceramic Filter		1
		(PHOTO ELECTRIC TRANSDUCERS)		
PC200A	PQVIPC817K	Photo Coupler	⚠	1
PC200B	PQVIPC817K	Photo Coupler	⚠	1
PC201A	PQVILP521	Photo Coupler	⚠	1
PC201B	PQVILP521	Photo Coupler	⚠	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs
		(VARISTORS)	
ZNR20A	PQVDDSS401M	Varistor ⚠	4
ZNR20B			
ZNR21A			
ZNR21B			
ZNR22A	ERZC07DK820	Varistor ⚠	1
ZNR22B	ERZC07DK820	Varistor ⚠	1
			1
		((RELAYS)	
RLY20A	PQSL34Z	Relay ⚠	1
RLY20B	PQSL34Z	Relay ⚠	1
RLY21A	PQSL63Z	Relay ⚠	1
RLY21B	PQSL63Z	Relay ⚠	1
RLY22A	PQSL41Z	Relay ⚠	1
RLY22B	PQSL41Z	Relay ⚠	1
		(TRANSFORMERS)	
T200A	ETA14Y85AY	Transformer ⚠	1
T200B	ETA14Y85AY	Transformer ⚠	1
		(COILS)	
L200A, L200B, L202A, L202B	PQLQZL101K	Choke Coil ⚠	4
L201A, L201B, L203A, L203B	PQLQZK100K	Choke Coil ⚠	4
L204A, L204B, L205A, L205B	PQLQZK220K	Choke Coil	4
		(RESISTORS)	
R200A	ERD16TJ151	150 ⚠	1
R200B	ERD16TJ151	150 ⚠	1
R201A	ERDS1TJ223	22k ⚠	1
R201B	ERDS1TJ223	22k ⚠	1
R202A	ERDS2TJ102	1k ⚠	1
R202B	ERDS2TJ102	1k ⚠	1
R203A	ERD16TJ5R6	5.6 ⚠	1
R203B	ERD16TJ5R6	5.6 ⚠	1
R204A	ERD16TJ822	8.2k ⚠	1
R204B	ERD16TJ822	8.2k ⚠	1
R205A	ERD25TJ330	33 ⚠	1
R205B	ERD25TJ330	33 ⚠	1
R206A	ERD16TJ473	47k ⚠	1
R206B	ERD16TJ473	47k	1
R207A	ERD16TJ472	4.7k	1
R207B	ERD16TJ472	4.7k	1
R208A	ERD16TJ473	47k	1
R208B	ERD16TJ473	47k	1
R209A	Not Used		
R209B	Not Used		
R210A, R210B, R211A, R211B	ERO16CKF1211	1.21k	4
R212A, R212B, R213A, R213B,	ERO16CKF1003	100k	4
R214A	Not Used		
R214B	Not Used		
R215A, R215B, R216A, R216B	ERO16CKF1003	100k	4
R217A	Not Used		
R217B	Not Used		
R218A	ERO16CKF2613	261k	1
R218B	ERO16CKF2613	261k	1
R219A	ERD16TJ102	1k	1
R219B	ERD16TJ102	1k	1

Ref. No.	Part No.	Value	Pcs
R220A, R220B, R221A, R221B	ERO16CKF1211	1.21k	4
R222A	Not Used		
R222B	Not Used		
R223A, R223B, R224A, R224B, R225A, R225B, R226A, R226B	ERO16CKF1003	100k	8
R227A	Not Used		
R227B	Not Used		
R228A	ERO16CKF2613	261k	1
R228B	ERO16CKF2613	261k	1
R229A	ERD16TJ391	390	1
R229B	ERD16TJ391	390	1
R230A	ERD16TJ152	1.5k	1
R230B	ERD16TJ152	1.5k	1
R231A	Not Used		
R231B	Not Used		
R232A	ERD16TJ471	470	1
R232B	ERD16TJ471	470	1
R233A	ERD16TJ122	1.2k	1
R233B	ERD16TJ122	1.2k	1
R234A	Not Used		
R234B	Not Used		
R235A	ERD16TJ471	470	1
R235B	ERD16TJ471	470	1
R236A	ERD16TJ122	1.2k	1
R236B	ERD16TJ122	1.2k	1
R237A	ERD16TJ105	1M	1
R237B	ERD16TJ105	1M	1
R239A	ERD16TJ102	1k ⚠	1
R239B	ERD16TJ102	1k ⚠	1
R240A	Not Used		
R240B	Not Used		
R241A	Not Used		
R241B	Not Used		
R242A	Not Used		
R242B	Not Used		
R243	ERD16TJ472	4.7k	1
R244	Not Used		
R245A	ERD16TJ105	1M	1
R245B	ERD16TJ105	1M	1
R246	ERD16TJ103	10k	1
R247, R248, R249, R250	ERD16TJ223	22k	4
R251	ERD16TJ101	100	1
R252	ERD16TJ105	1M	1
R253A R253B, R254, R255	ERD16TJ103	10k	4
R256	ERD16TJ223	22k	1
R257	ERD16TJ223	22k	1
R258	ERD16TJ102	1k	1
R259	Not Used		
R260	ERD25TJ470	47	1
R261	ERD16TJ184	180k	1
		(CAPACITORS)	
C200A	ECQE1104KN	0.1 ⚠	1
C200B	ECQE1104KN	0.1 ⚠	1
C201A	ECQE2474KS	0.47 ⚠	1
C201B	ECQE2474KS	0.47 ⚠	1
C202A, C202B, C203A, C203B	ECEA1HU220	22 ⚠	4
C204A	ECQV1H104JZ	0.1	1

Ref. No.	Part No.	Value, Part Name & Description		Pcs
C204B	ECQV1H104JZ	0.1		1
C205A	ECEA1HU220	22	⚠	1
C205B	ECEA1HU220	22	⚠	1
C206A	ECKD1H102KB	0.001		1
C206B	ECKD1H102KB	0.001		1
C207A, C207B, C208A, C208B	ECFD1E683MD	0.068		4
C209A, C209B, C210A, C210B	ECCD1H560KC	56P		4
C211A	ECFD1E333MD	0.033		1
C211B	ECFD1E333MD	0.033		1
C212A	Not Used			
C212B	Not Used			
C213A	ECFD1E183MD	0.018		1
C213B	ECFD1E183MD	0.018		1
C214A	Not Used			
C214B	Not Used			
C215A	ECFD1E183MD	0.018		1
C215B	ECFD1E183MD	0.018		1
C216	Not Used			
C217	ECKD1H223MD	0.022		1
C218	Not Used			
C219, C220, C221	ECKD1H223MD	0.022		3
C222	ECKD1H103MD	0.01		1
C223	Not Used			
C224	Not Used			
C225A	ECKDKC222KB	0.0022	⚠	1
C225B	ECKDKC222KB	0.0022	⚠	1
C226	ECEA1EU101	100		1
C227	Not Used			
C228, C229	ECEA1EU470	47	S	2
C230	ECEA1EU101	100		1
C231	ECEA1CSS102	1000		1
C232-C237	Not Used			
C238A	ECKD1H103MD	0.01		1
C238B	ECKD1H103MD	0.01		1
C239	ECEA1HU100	10		1
C240A	ECKDKC222KB	0.0022		1
C240B	ECKDKC222KB	0.0022		1
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQHR9200Z	Spacer		1
3	PQUB11Z	Latch		2
CNB	PQJP8S30Z	Connector, 8P		1
CNC	PQJP45S30Z	Connector, 45P		1
MJ1,2	PQJJ1TA11Z	Jack, Telephone	⚠	2

POWER BOARD PARTS

PCB7	PQWP7T123210	Power P.C. Board Ass'y (NLA)		1
		(TRANSISTORS)		
Q50	2SC2673	Transistor (Si)		1
Q51	2SB1015	Transistor (Si)		1
Q52	2SA881	Transistor (Si)		1
Q53	2SD1406	Transistor (Si)		1
		(DIODES)		
D50,51	PQVDS3V10LF	Diode (Si)		2
D52,53, D54	1SS131	Diode (Si)		3
D55,56	PQVDS3V10LF	Diode (Si)		2
D57,58	1SR35-200	Diode (Si)		2
LED1-3	LN28RPL	LED	S	3

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		(VARISTOR)		
ZNR50	PQVDDSS401M	Varistor		1
		(RESISTORS)		
R50	ERD16TJ823	82k		1
R51	ERD16TJ103	10k		1
R52	PQRD1VJ1R0	1		1
R53	ERDS1TJ181	180		1
R54,55	ERDS1TJ151	150		2
R56	ERDS1TJ181	180		1
R57	ERD16TJ103	10k		1
R58	PQRD1VJ1R0	1		1
R59	ERD16TJ103	10k		1
R60	ERD16TJ104	100k		1
R61	ERDS1TJ101	100		1
R62	ERD16TJ562	5.6k		1
R63	ERD16TJ822	8.2k		1
R64	ERD16TJ272	2.7k		1
		(CAPACITORS)		
C50	ECET35S153SW	15000		1
C51	Not Used			
C52	EECW0HS105Z	1	S	1
C53	ECEA1AU222	2200		1
C54	ECKD1H102KB	0.01		1
C55	ECEA1VU101	100		1
		(OTHERS)		
CN17	PQJP5D30Z	Connector, 5P		1
CN18	PQJP6D30Z	Connector, 6P		1
CN19	PQJP10D30Z	Connector, 10P		1
CN50	PQJP8D30Z	Connector,8P		1
CN51	PQJP4D30Z	Connector, 4P		1

POWER UNIT PARTS — All ⚠

PCB8	PQLP005Z	Power Unit (NLA)		1
		(ICs)		
IC101	PQVIHA16664	IC		1
IC102	PQVIMB3761M	IC		1
IC201	PQVIL5431	IC		1
IC202, IC203, IC204	PQVIIR3M02	IC		3
IC205	AN6562	IC	S	3
IC206	PQVIL5431	IC		1
		(TRANSISTORS)		
Q101	2SK800	Transistor (Si)		1
Q102	2SA1015	Transistor (Si)		1
Q103	2SA1015	Transistor (Si)		1
Q104	2SC1815	Transistor (Si)		1
Q105	2SC2021	Transistor (Si)		1
Q201	2SA1015	Transistor (Si)		1
Q202	2SA1020	Transistor (Si)		1
Q203	2SC3568	Transistor (Si)		1
Q204	2SC2750	Transistor (Si)		1
Q205	2SB744	Transistor (Si)		1
Q206	2SC1815	Transistor (Si)		1
Q207	2SA1020	Transistor (Si)		1
Q208	2SC3568	Transistor (Si)		1
Q209	2SC1815	Transistor (Si)		1
Q210	DTC143EA	Transistor (Si)		1
Q211	DTC143EA	Transistor (Si)		1
Q212	2SC1815	Transistor (Si)		1

Ref. No.	Part No.	Part Name and Description		Pcs
		(DIODES)		
D101	PQVDD5SB60	Diode (Si)		1
D102	PQVD10DF6	Diode (Si)		1
D103	PQVD10DF6	Diode (Si)		1
D104	PQVDERA22-02	Diode (Si)		1
D105	PQVDRD10ESB	Diode (Si)		1
D106	1SS131	Diode (Si)		1
D107	Not Used			
D108	PQVDRD18FB	Diode (Si)		1
D109	PQVDRD20JSB	Diode (Si)		1
D110	PQVDS1WB60	Diode (Si)		1
D111	PQVDRD12JSB	Diode (Si)		1
D201	PQVDC25P20F	Diode (Si)		1
D202	PQVD11ES2	Diode (Si)		1
D203	PQVDF10P04Q	Diode (Si)		1
D204	PQVDRD4.3ESB	Diode (Si)		1
D205	PQVD11ES2	Diode (Si)		1
D206	1SS92			1
D207	PQVDF10P20FU	Diode (Si)		1
D208	PQVDRD18JSB	Diode (Si)		1
D209	PQVD11ES2	Diode (Si)		1
D210	PQVDF10P10Q	Diode (Si)		1
D211	PQVDRD13JSB	Diode (Si)		1
D212	PQVD11ES2	Diode (Si)		1
D213	PQVDF10P04Q	Diode (Si)		1
		(PHOTO ELECTRIC TRANSDUCERS)		
PC101, PC102, PC201	PQVITLP521	Photo Coupler		3
		(THYRISTOR)		
SCR201	PQVTAC12DSM	Thyristor		1
		(VARISTOR)		
SA103	ERZC14DK271U	Varister		1
		(COILS & TRANSFORMERS)		
L101	PQLE9008Z	Choke Coil		1
L102	PQLE9009Z	Choke Coil		1
L103	PQLE9007Z	Choke Coil		1
L201	PQLE9006Z	Choke Coil		1
L202	PQLE9005Z	Choke Coil		1
L203	PQLE9003Z	Choke Coil		1
L204	PQLE9006Z	Choke Coil		1
L205	PQLE9002Z	Choke Coil		1
L206	PQLE9004Z	Choke Coil		1
L207	PQLE9003Z	Choke Coil		1
L208	PQLE9001Z	Choke Coil		1
T101	PQLT9002Z	Switching Transformer		1
T201	PQLT9001Z	Drive Transformer		1
		(VARIABLE RESISTORS)		
VR101	EVM38GA00B54	Semi-Fixed, 50kΩ (B)	S	1
VR201	EVM38GA00B53	Semi-Fixed, 5kΩ (B)	S	1
VR202	EVM38GA00B13	Semi-Fixed, 1kΩ (B)	S	1
VR203	PQN9002Z	Semi-Fixed, 1kΩ (B)		1
VR204	PQN9001Z	Semi-Fixed, 2kΩ (B)		1
		(OTHERS)		
CR119	PQVDMGC4R3R2	Component Combination		1
CR120	PQVDMGC4R3R2	Component Combination		1
SW101	EST15302T	Switch, Power		1
RL201	PQSL9001Z	Relay		1
F101	XBA1C50NU100	Fuse, 5A, 125V		1
F201	XBA1C100NU10	Fuse, 10A, 125V		1
CN1	PQJS9002Z	Connector, 8P		1
CN2	PQJS9001Z	Connector, 4P		1
100	PQJA9003Z	AC Cord		1
101	PQHR104Z	Clamper, AC Cord		1
102	RHR993Z	Band		4

Ref. No.	Part No.	Value	Pcs
R101	ERTD5FFL5R0P	Thermistor	1
R101	ERTD5FFL5R0P	Thermistor	1
		(CAPACITORS)	
C101	ECQU1A224MH	0.22	1
C102	ECKDKC472MF	4700P	1
C103	ECKDKC222KB	2200P	1
C104	ECKDKC222KB	2200P	1
C105	ECES2DG102Z	1000	1
C106	ECQE6103KF	0.01	1
C107	ECKD3A471KBL	470P	1
C108	ECEA1HGA100	10	1
C109	ECEA1HG010SK	1	1
C110	ECQM1H153JV	0.015	1
C111	ECQM1H152JV	0.0015	1
C112	ECEA1HGA100	10	1
C113	ECEA1HGA100	10	1
C114	ECEA1HGA100	10	1
C115	ECEA1HGA100	10	1
C116	ECEA1HGA100	10	1
C117	Not Used		
C118	Not Used		
C119	Not Used	3.2	1
C120	Not Used	3.2	1
C121	ECKDKC472MF	4700P	1
C122	ECKDKC332KB2	3300P	1
C123	ECKDKC332KB2	3300P	1
C124	ECKDKC472MF	4700P	1
C200	Not Used		
C201	ECKD3A102KBN	1000P	1
C202	ECKD3A471KBL	470P	1
C203	ECEA1EG332S	3300	1
C204	ECEA1HG010SK	1	1
C205	ECEA1EG332S	3300	1
C206	ECQM1H104JV	0.1	1
C207	ECEA1HG010SK	1	1
C208	ECEA1HGA100	10	1
C209	ECQM1H473JV	0.047	1
C210	ECQM1H153JV	0.015	1
C211	ECQM1H102JV	0.001	1
C212	ECEA1AG222K	2200	1
C213	ECQM1H104JV	0.1	1
C214	ECEA1AG222K	2200	1
C215	ECEA1HGA100	10	1
C216	ECQM1H473JV	0.047	1
C217	ECQM1H104JV	0.1	1
C218	ECEA1HG4R7SK	4.7	1
C219	ECQM1H104JV	0.1	1
C220	ECQM1H104JV	0.1	1
C221	ECQM1H102JV	0.001	1
C222	ECEA1EGA222	2200	1
C223	ECEA1EGA222	2200	1
C224	ECEA1EGA222	2200	1
C225	ECEA1HG010SK	1	1
C226	ECEA1HGA100	10	1
C227	ECQM1H473JV	0.047	1
C228	ECQM1H102JV	0.001	1
C229	ECEA1EGA222	2200	1
C230	ECQM1H104JV	0.1	1
C231	ECEA1EGA222	2200	1
C232	ECEA1HGA100	10	1
C233	ECQE1474KF	0.47	1
C234	ECKDKC222KB	2200P	1
C235	ECQM1H103JV	0.01	1
		(RESISTORS)	
R103	ERD2TJ473	47k	1
R104	ERD2TJ104	100k	1
R105	ERDS1TJ220	22	1
R106	ERD2TJ100	10	1
R107	ERD16TJ683	68k	1
R108	ERD16TJ103	10k	1
R109	ERD16TJ472	4.7k	1
R110	ERD16TJ102	1k	1
R111	ERD16TJ221	220	1

Ref. No.	Part No.	Value	Pcs
R112	ERD16TJ103	10k	1
R113	ERD16TJ222	2.2k	1
R114	ERD16TJ333	33k	1
R115	ERD16TJ471	470	1
R116	ERD16TJ103	10k	1
R117	ERDS1TJ101	100	1
R118	ERD2TJ683	68k	1
R119	ERDS1TJ913	91k	1
R120	ERD16TJ122	1.2k	1
R121	ERD16TJ331	330	1
R122	ERD16TJ473	47k	1
R123	ERD16TJ103	10k	1
R124	ERD16TJ103	10k	1
R201	ERD1TJ220	22	1
R202	ERD1TJ100	10	1
R203	ERD16TJ102	1k	1
R204	ERD16TJ183	18k	1
R205	ERD16TJ222	2.2k	1
R206	ERD16TJ561	560	1
R207	ERD16TJ471	470	1
R208	ERD16TJ102	1k	1
R209	ERD16TJ223	22k	1
R210	ERD16TJ104	100k	1
R211	ERD16TJ103	10k	1
R212	ERD16TJ103	10k	1
R213	ERD16TJ104	100k	1
R214	ERD16TJ682	6.8k	1
R215	ERD16TJ103	10k	1
R216	ERD16TJ332	3.3k	1
R217	ERD16TJ680	68	1
R218	ERD1TJ102	1k	1
R219	ERD16TJ100	10	1
R220	ERD16TJ470	47	1
R221	ERD16TJ102	1k	1
R222	ERF2AJR05	0.05	1
R223	ERD16TJ681	680	1
R224	ERD16TJ183	18k	1
R225	ERD16TJ682	6.8k	1
R226	ERD16TJ562	5.6k	1
R227	ERD16TJ101	100	1
R228	Not Used		
R229	Not Used		
R230	Not Used		
R231	Not Used		
R232	ERD16TJ103	10k	1
R233	ERD16TJ103	10k	1
R234	ERD16TJ222	2.2k	1
R235	Not Used		
R236	ERD16TJ104	100k	1
R237	ERD16TJ682	6.8k	1
R238	ERD16TJ273	27k	1
R239	ERD16TJ103	10k	1
R240	ERD16TJ183	18k	1
R241	ERD1TJ102	1k	1
R242	ERDS1TJ101	100	1
R243	ERD3TJ3R3	3.3	1
R244	ERDS1TJ150	15	1
R245	ERD16TJ470	47	1
R246	ERD16TJ102	1k	1
R247	ERD16TJ821	820	1
R248	ERD16TJ104	100k	1
R249	ERD16TJ103	10k	1
R250	ERD16TJ103	10k	1
R251	ERD16TJ104	100k	1
R252	ERD16TJ682	6.8k	1
R253	ERD16TJ103	10k	1
R254	ERD16TJ680	68	1
R255	ERD1TJ102	1k	1
R256	ERD16TJ100	10	1
R257	ERD16TJ470	47	1
R258	ERD16TJ332	3.3k	1
R259	ERF2AJR05	0.05	1
R260	ERD16TJ122	1.2k	1
R261	ERD16TJ223	22k	1
R262	ERD16TJ103	10k	1
R263	ERD16TJ222	2.2k	1

Ref. No.	Part No.	Value	Pcs
R264	ERD16TJ470	47	1
R265	ERD16TJ471	470	1
R266	ERD16TJ471	470	1
R267	ERD16TJ471	470	1
R268	ERD16TJ472	4.7k	1
R269	ERD16TJ102	1k	1
R270	ERD16TJ153	15k	1
R271	ERD16TJ102	1k	1
R272	ERD16TJ271	270	1
R273	Not Used		
R274	ERD16TJ152	1.5k	1
R275	ERDS1TJ152	1.5k	1
R276	ERD16TJ104	100k	1
R277	ERD16TJ682	6.8k	1
R278	ERD16TJ102	1k	1